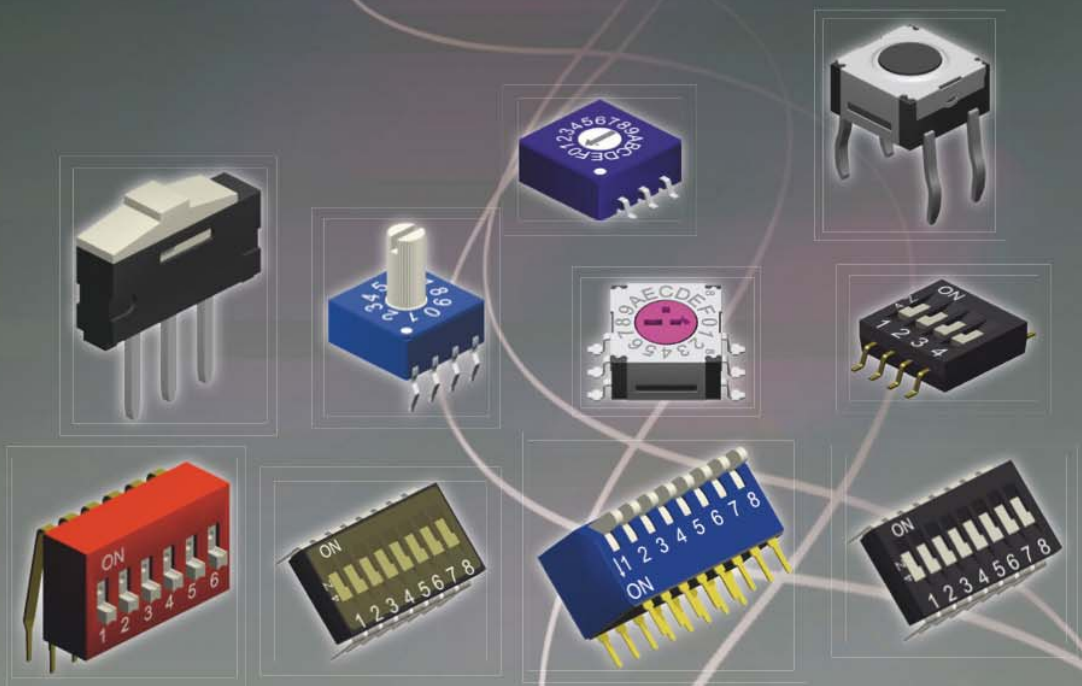
E-tec Interconnect



04

DIP & ROTARY SWITCH

www.e-tec.com

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PRODUCT OVERVIEW

click on page numbers

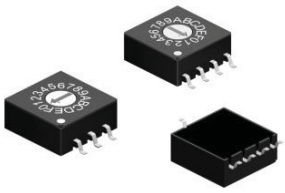
E-tec Interconnect

Changeover Slide Switch

SMT & THT Page 2

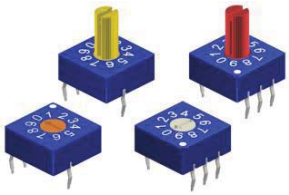
Rotary Switch

horizontal SMT



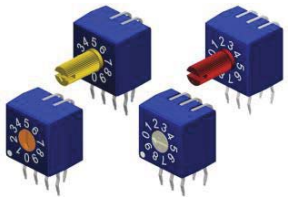
Page 3

horizontal THT



Page 4 & 5

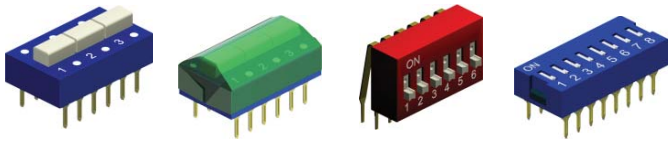
vertical THT



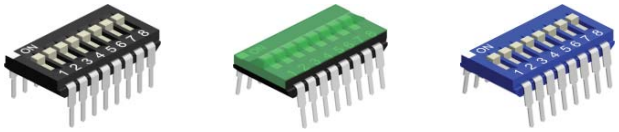
Page 6 to 9

Slide Switch

DIP Package “THT”

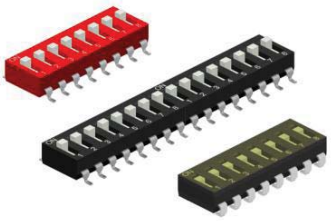


DDG / DDS Series Page 10 & 11

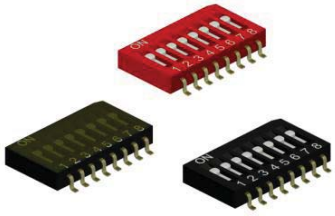


DAH / DAM Series Page 12 & 13

DIP Package “SMT”



DSD / DSL Series Page 14



DHS Series Page 15

TRI-State “THT” & “SMT”

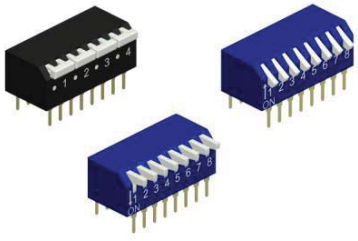
DTD / DTA / DTS Series Page 16

Selector “THT” & “SMT”

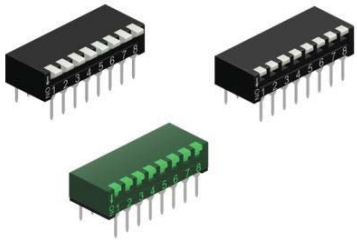
DSP Series Page 17

Piano Switch

DIP Package “THT”



DPG / DPS Series Page 18 & 19



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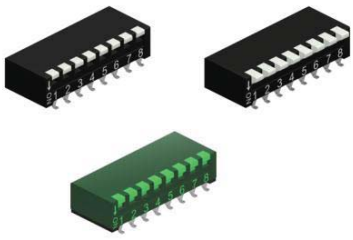
DIP Package “SMT”



DPA / DPM Series Page 22 & 23

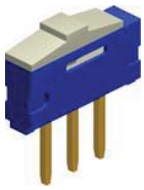
DSS Series

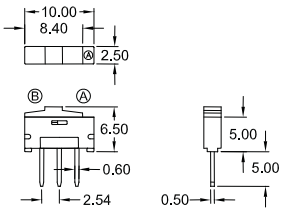
CHANGEOVER SLIDE SWITCH "THT" & "SMT" TYPE

RoHS 2002/95/EC compliant

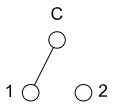
E-tec Interconnect

***DSS**-10xx*





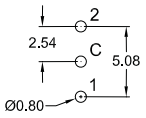
Circuit diagram



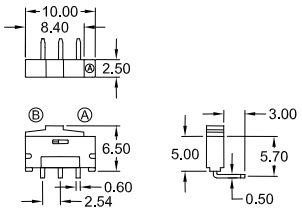
Switch position

Ⓑ Ⓐ
PT PT
C-1 C-2

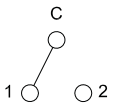
PCB Hole Layout



***DSS**-20xx*



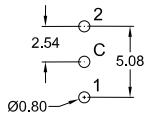
Circuit diagram



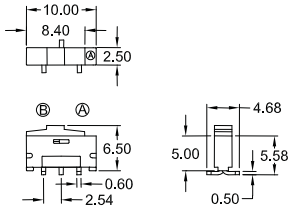
Switch position

Ⓑ Ⓐ
PT PT
C-1 C-2

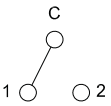
PCB Hole Layout



***DSS**-30xx*



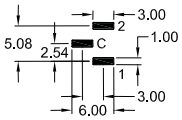
Circuit diagram



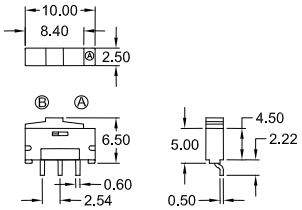
Switch position

Ⓑ Ⓐ
PT PT
C-1 C-2

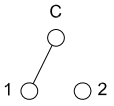
PCB SMT Layout



***DSS**-40xx*



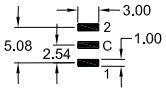
Circuit diagram



Switch position

Ⓑ Ⓐ
PT PT
C-1 C-2

PCB SMT Layout



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	0.2A, 24V DC / 0.5A, 12V DC
-minimum	1 mA at 10mV
Contact Resistance	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	10000 MΩ min. at 500V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	1.5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec. max.
-THT wave soldering	250°C +0/-5°C for 10 sec. max.
Operating force	800 gf max.
Mechanical Life	5000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Sutable for signal switching and communication equipments
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts to ensure low contact resistance

- Tropical Version (black color) also for THT straight and right angle type available

How to order

DSS – xx xx XX Z

Type		
10	=	Straight THT
20	=	Right angle THT
Tropical version only:		
30	=	Vertical SMT
40	=	Horizontal SMT

Execution		
10	=	Standard version (blue) *Material: Nylon 66*
20	=	Tropical version (black) *Material: Nylon 9T*

Packing option		
blank	=	Tube packing
KD	=	Reel packing *for DSP-40xx series only*

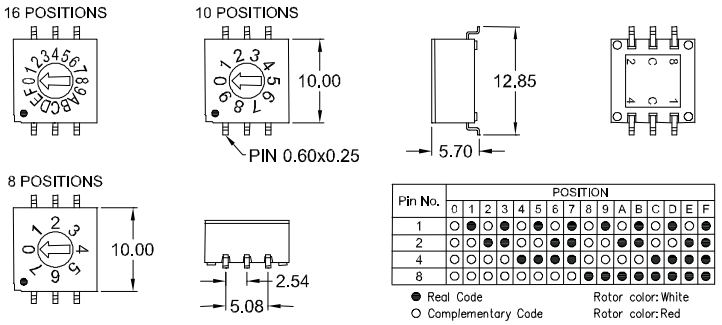
DRD Series 10x10 Size sealed ROTARY TYPE

3:3 & 1:4 PIN-OUT "SMT"

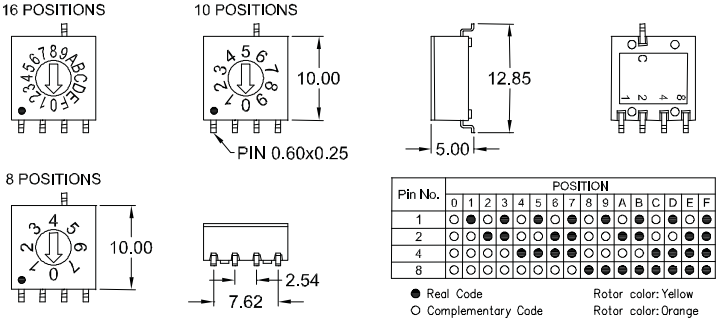
RoHS 2002/95/EC compliant

E-tec Interconnect

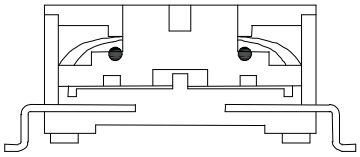
***DRD**-1 xx-XM Z* (3:3 pin-out)



***DRD**-4 xx-XM Z* (1:4 pin-out)

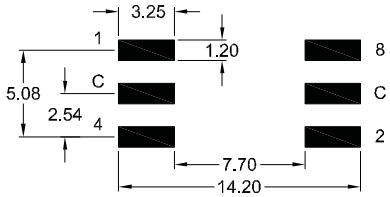


Construction

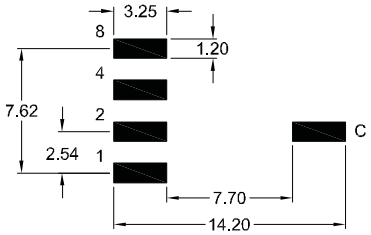


PCB SMT Layout

3:3 PIN-OUT



1:4 PIN-OUT



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec.
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm pin to pin
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor	Nbr of positions	Code
1 = Flat type (3:3 pin-out)	**08**; **10**; **16**	**RM** = Real
4 = Flat type (1:4 pin-out)		**CM** = Complementary

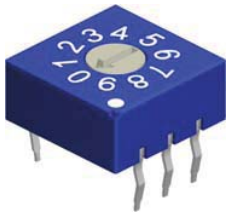
DRD Series 10x10 Size sealed ROTARY TYPE

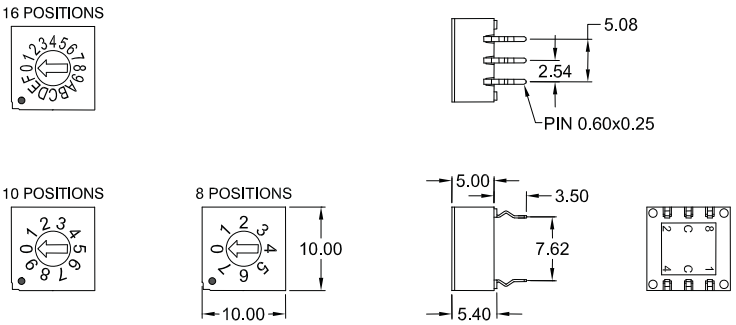
3:3 PIN-OUT STRAIGHT "THT" *(2.54 x 7.62mm footprint)*

RoHS 2002/95/EC compliant

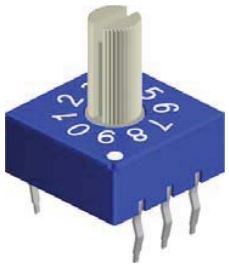
E-tec Interconnect

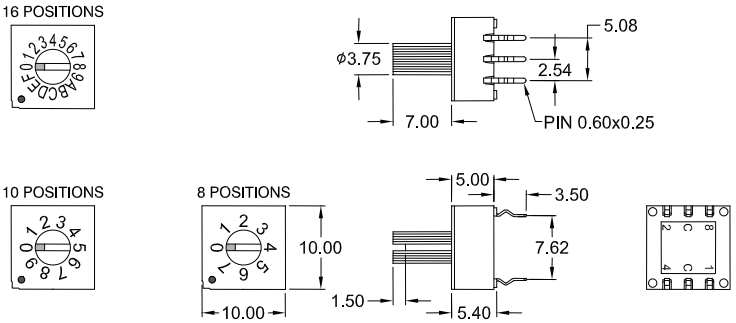
***DRD**-1 xx-XS Z* (Flat Type)



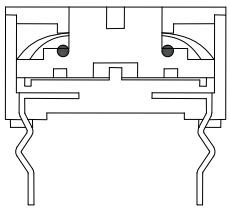


***DRD**-2 xx-XS Z* (Shaft Type)

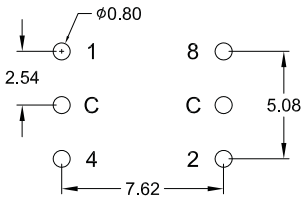




Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: White

Rotor color: Red

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm pin to pin
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
1	=	Flat type
2	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RS	=	Real	7.62mm row space
CS	=	Complementary	7.62mm row space

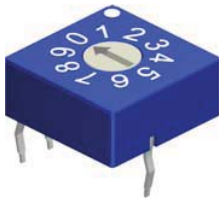
DRD Series 10x10 Size sealed ROTARY TYPE

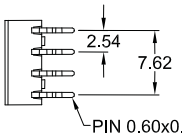
1:4 PIN-OUT STRAIGHT "THT" *(2.54 x 7.62mm footprint)*

RoHS 2002/95/EC compliant

E-tec Interconnect

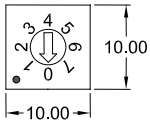
***DRD**-4 xx-XS Z* (Flat Type)

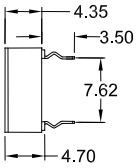




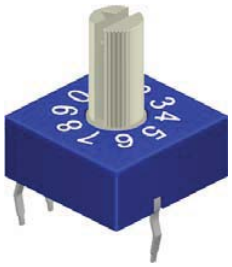
10 POSITIONS

8 POSITIONS

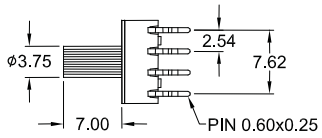




***DRD**-5 xx-XS Z* (Shaft Type)

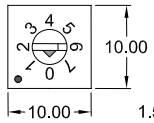


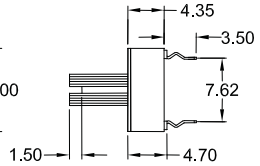
16 POSITIONS



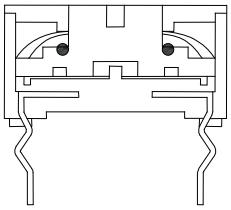
10 POSITIONS

8 POSITIONS

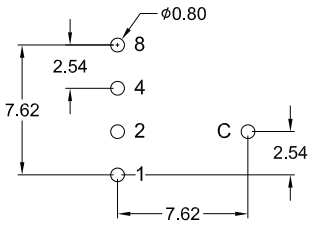




Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: Yellow

Rotor color: Orange

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm pin to pin
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
4	=	Flat type
5	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RS	=	Real	7.62mm row space
CS	=	Complementary	7.62mm row space

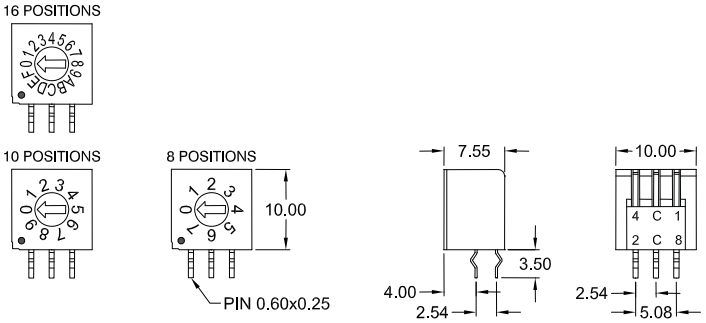
DRD Series 10x10 Size sealed ROTARY TYPE

3:3 PIN-OUT RIGHT ANGLE "THT" *(2.54 x 2.54mm footprint)*

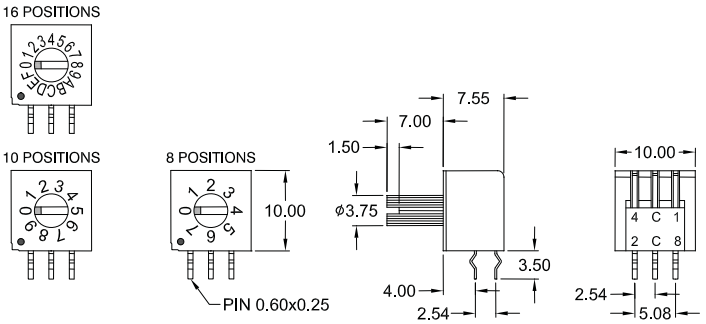
RoHS 2002/95/EC compliant

E-tec Interconnect

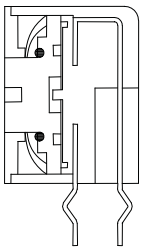
***DRD**-1 xx-XR Z* (Flat Type)



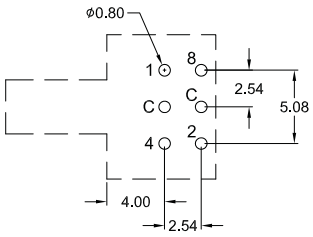
***DRD**-2 xx-XR Z* (Shaft Type)



Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: White

Rotor color: Red

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm grid dimension
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
1	=	Flat type
2	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RR	=	Real	2.54mm grid
CR	=	Complementary	2.54mm grid

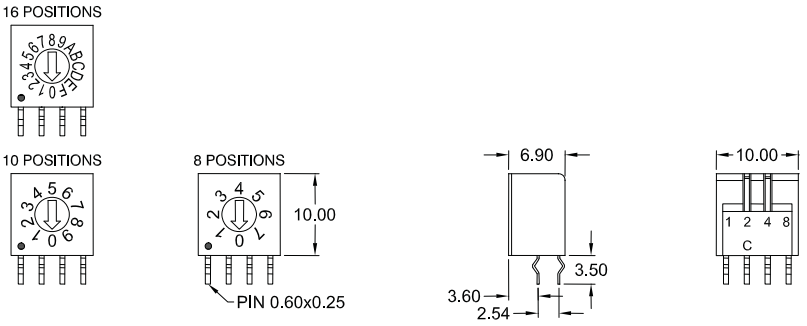
DRD Series 10x10 Size sealed ROTARY TYPE

1:4 PIN-OUT RIGHT ANGLE "THT" *(2.54 x 2.54mm footprint)*

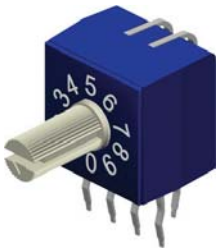
RoHS 2002/95/EC compliant

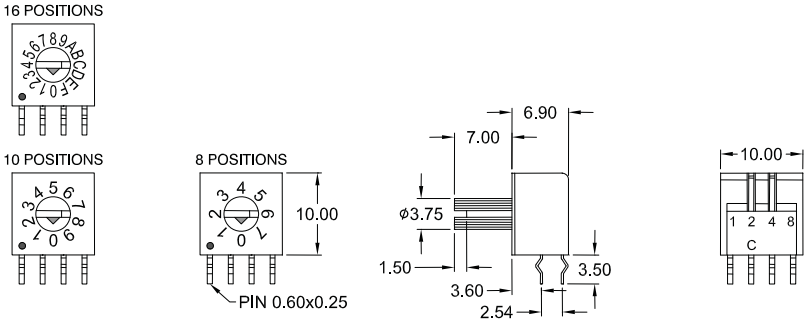
E-tec Interconnect

***DRD**-4 xx-XR Z* (Flat Type)

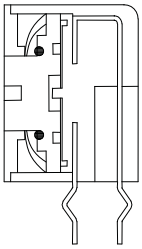


***DRD**-5 xx-XR Z* (Shaft Type)

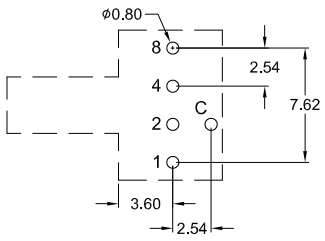




Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: Yellow

Rotor color: Orange

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm grid dimension
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
4	=	Flat type
5	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RR	=	Real	2.54mm grid
CR	=	Complementary	2.54mm grid

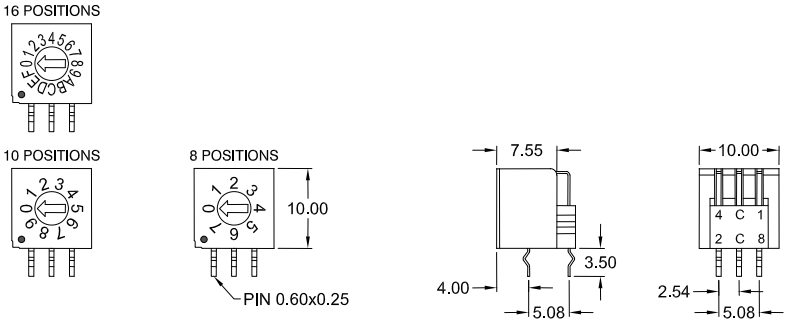
DRD Series 10x10 Size sealed ROTARY TYPE

3:3 PIN-OUT RIGHT ANGLE "THT" *(2.54 x 5.08mm footprint)*

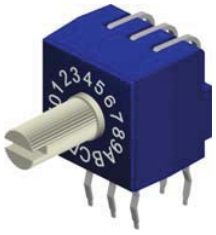
RoHS 2002/95/EC compliant

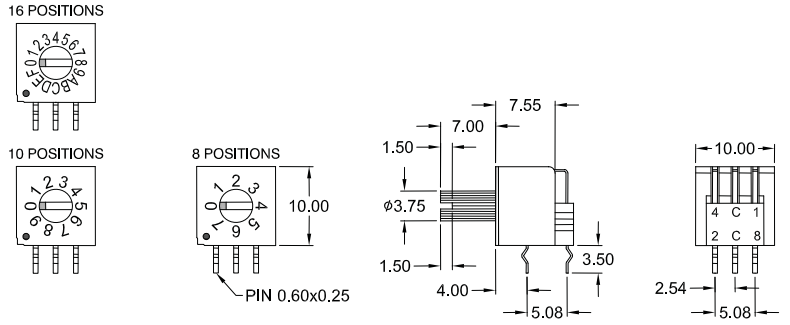
E-tec Interconnect

***DRD**-1 xx-XF Z* (Flat Type)

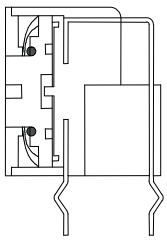


***DRD**-2 xx-XF Z* (Shaft Type)

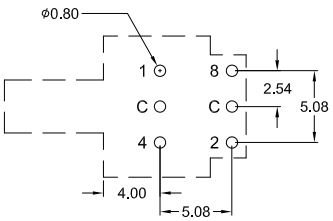




Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: White

Rotor color: Red

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm pin to pin
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
1	=	Flat type
2	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RF	=	Real	5.08mm row space
CF	=	Complementary	5.08mm row space

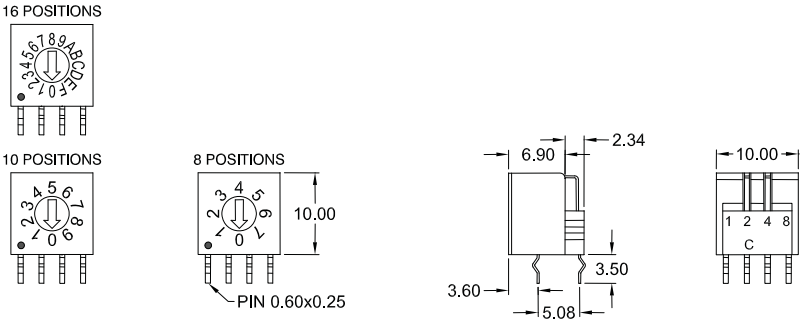
DRD Series 10x10 Size sealed ROTARY TYPE

1:4 PIN-OUT RIGHT ANGLE "THT" *(2.54 x 5.08mm footprint)*

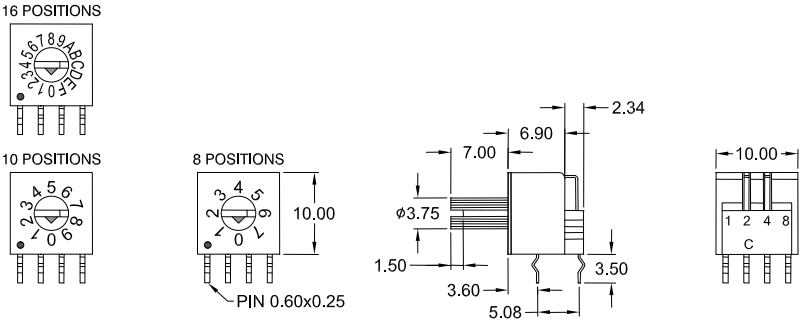
RoHS 2002/95/EC compliant

E-tec Interconnect

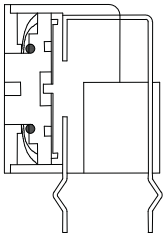
***DRD**-4 xx-XF Z* (Flat Type)



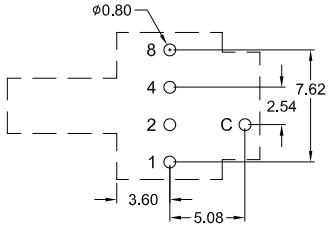
***DRD**-5 xx-XF Z* (Shaft Type)



Construction



PCB Hole Layout



Code

Pin No.	POSITION															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
2	○	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●
4	○	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●
8	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●

● Real Code ○ Complementary Code

Rotor color: Yellow

Rotor color: Orange

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	250 V AC for 1 Minute

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	500 gf-cm max. (torque)
Mechanical Life	2000 steps per position
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Molded-in terminals and fully sealed construction
- Standard 2.54mm pin to pin
- All plastics are UL 94V-0 grade fire retardant
- Reliable contact and long-term stability
- Binary decimal (8 or 10 positions) and hexadecimal (16 positions), real and complementary codes available
- Gold plated contacts to ensure low contact resistance. Terminals Tin plated.

How to order

DRD – x xx – XX Z

Rotor		
4	=	Flat type
5	=	Shaft type

Nbr of positions
08; **10**; **16**

Code			
RF	=	Real	5.08mm row space
CF	=	Complementary	5.08mm row space

DDG / DDS Series

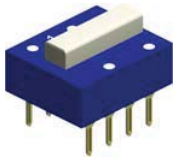
SLIDE *STANDARD PROFILE* "THT" TYPE

RoHS 2002/95/EC compliant

E-tec Interconnect

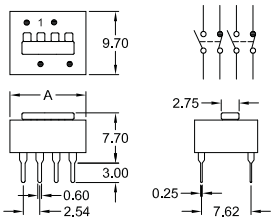
DPDT Contact Form

Standard Actuator only!



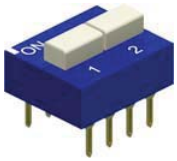
Position	1	2	3
Dim. "A"	11.70	21.70	31.80

Unit: mm



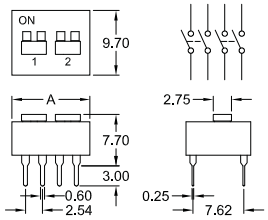
DPST Contact Form

Standard Actuator only!



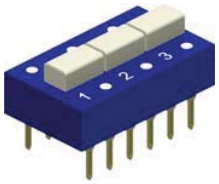
Position	1	2	3	4	5	6
Dim. "A"	6.70	11.70	16.70	21.70	26.70	31.80

Unit: mm



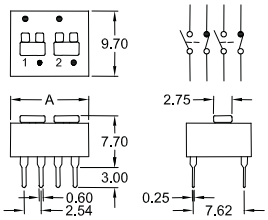
SPDT Contact Form

Standard Actuator only!

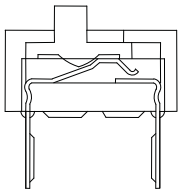


Position	1	2	3	4	5	6
Dim. "A"	6.70	11.70	16.70	21.70	26.70	31.80

Unit: mm

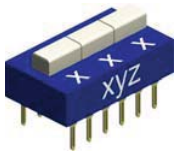


Construction

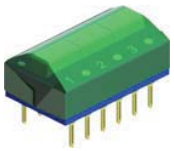


Options

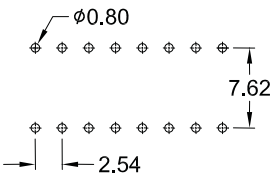
1. Special top and/or side marking available



2. Tape sealed



PCB Hole Layout



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- All plastics used are UL 94V-0 grade fire retardant
- Bottom epoxy sealed standard
- Contact wiping on make and break
- Gold plated (*gold*/*gold*) or silver plated (*silver*/*tin*) contacts to ensure low contact resistance and long mechanical life
- Ideal for Data Processing, Telecommunication, Remote Control and Burglar Alarm System use, where manual programming is required
- Standard packing method Tube

How to order

DDX – x xx – XX Z

Series

DDG = Gold plated Contacts

DDS = Silver plated Contacts

Contact Form

2 = DPST

3 = SPDT

6 = DPDT

Nbr of positions

see under position/dimension box above

Example:
1 Position = **01**
2 Position = **02**
etc.

Actuator and Sealing

S = Standard Actuator

ST = Standard Actuator & Tape sealed

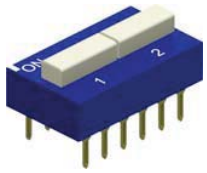
DDG / DDS Series

SLIDE *STANDARD PROFILE* "THT" TYPE

RoHS 2002/95/EC compliant

E-tec Interconnect

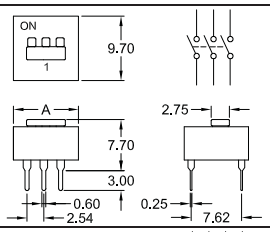
3PST Contact Form



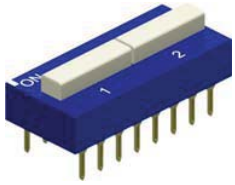
Standard Actuator only!

Position	1	2	3	4
Dim. "A"	9.20	16.70	24.20	31.80

Unit: mm



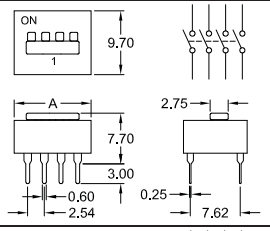
4PST Contact Form



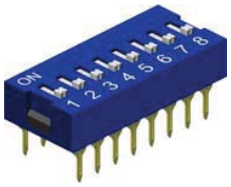
Standard Actuator only!

Position	1	2	3
Dim. "A"	11.70	21.70	31.80

Unit: mm



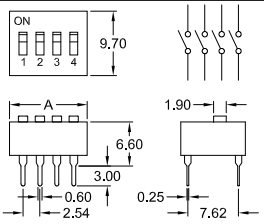
SPST Contact Form



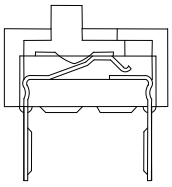
Standard & Low Actuator possible.

Position	1	2	3	4	5	6
Dim. "A"	3.91	6.70	9.20	11.70	14.20	16.70
Position	**7**	**8**	**9**	**10**	**12**	**15**
Dim. "A"	19.20	21.70	24.20	26.70	31.80	39.50

Unit: mm

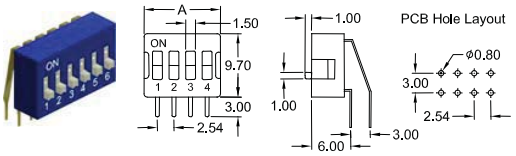


Construction



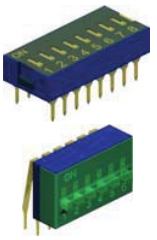
Options

1. Right Angle for *SPST* Contact Form; 1 to 15 positions

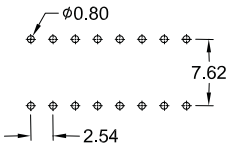


2. Low profile actuator

3. Tape sealed



PCB Hole Layout



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- All plastics used are UL 94V-0 grade fire retardant
- Bottom epoxy sealed standard
- Contact wiping on make and break
- Gold plated (*gold*/*gold*) or silver plated (*silver*/*tin*) contacts to ensure low contact resistance and long mechanical life
- Ideal for Data Processing, Telecommunication, Remote Control and Burglar Alarm System use, where manual programming is required
- Standard packing method Tube

How to order

DDX – x xx – XXX Z

Series

DDG = Gold plated Contacts

DDS = Silver plated Contacts

Contact Form

1 = SPST

4 = 3PST

5 = 4PST

Nbr of positions

see under position/dimension box above

Example:
1 Position = **01**
2 Position = **02**
etc.

Actuator and Sealing

S = Standard Actuator

L = Low Profile Actuator

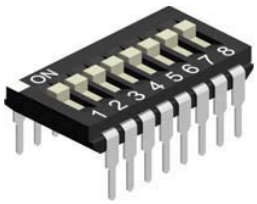
LT = Low Profile Actuator & Tape sealed

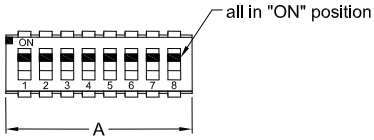
ST = Standard Actuator & Tape sealed

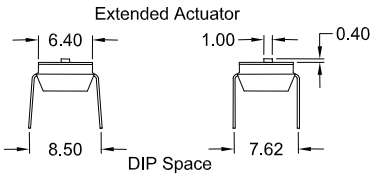
SRA = Right Angle Type

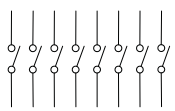
DAH Series

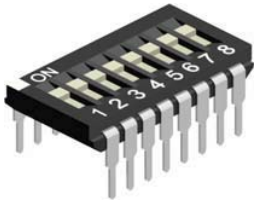
SLIDE *AUTO INSERTING* "THT" TYPE

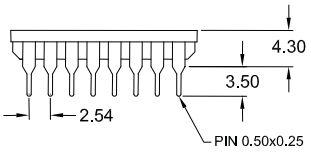


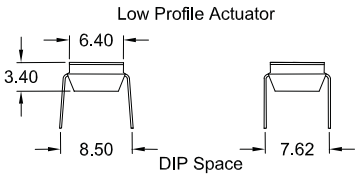


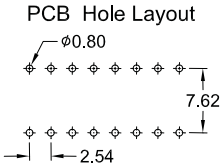








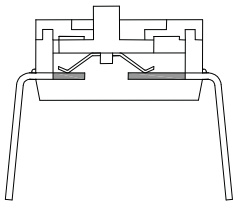




Position	2	3	4	5	6	7	8	10	12
Dim. "A"	6.68	9.42	11.96	14.50	17.04	19.58	22.12	27.20	32.28

Unit: mm

Construction

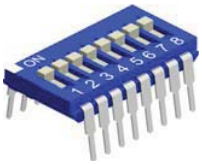


Options

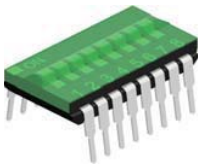
1. Two kinds of pitch available as attached table

Actuator Type	Pitch(mm)	
	Standard	Option
E	7.62	8.50
L	8.50	7.62

2. Special marking and body color available



3. Tape sealed



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Same size as an IC, 7.62mm (.300"), can be assembled by any automatic IC Inserter
- Smaller size makes better heat convection during PC board wave soldering
- Tape sealed to withstand solder vapors and board washing
- All plastics used are UL 94V-0 grade fire retardant
- Twin contact design to ensure stable contact
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (***gold/tin***)
- Standard packing method Tube

How to order

DAH – 1 xx – XXxx Z

Contact Form

1 = SPST

Nbr of positions

see under position/dimension box above

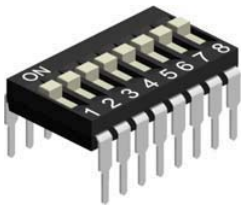
Example:
2 Position = **02**
3 Position = **03**
etc.

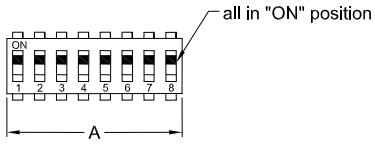
Actuator, Sealing and DIP Space

L	=	Low profile Actuator and DIP space 8.50mm
LT	=	Low profile Actuator & Tape sealed & DIP space 8.50mm
L01	=	Low profile Actuator and DIP space 7.62mm
LT01	=	Low profile Actuator & Tape sealed & DIP space 7.62mm
E	=	Extended Actuator and DIP space 7.62mm
E01	=	Extended Actuator and DIP space 8.50mm

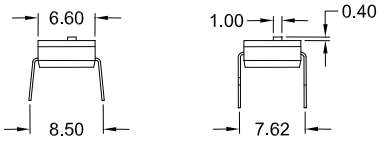
DAM Series

SLIDE *END STACKABLE* "THT" TYPE

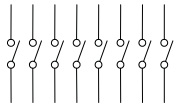


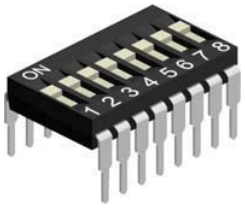


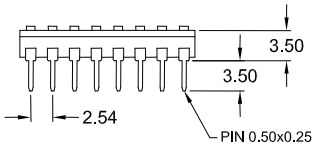
Extended Actuator



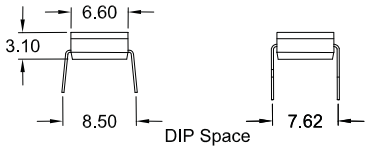
Circuit diagram



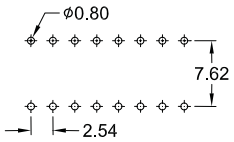




Low Profile Actuator



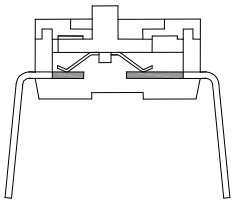
PCB Hole Layout



Position	1	2	3	4	5	6	7	8	9	10	12
Dim. "A"	2.50	5.04	7.58	10.12	12.66	15.20	17.74	20.28	22.82	25.36	30.43

Unit: mm

Construction

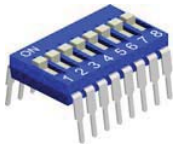


Options

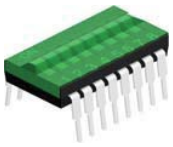
1. Two kinds of pitch available as attached table

Actuator Type	Pitch(mm)	
	Standard	Option
E	7.62	8.50
L	8.50	7.62

2. Special marking and body color available



3. Tape sealed



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- End stackable for standard 2.54mm (.100") integrated circuit pitch
- Same size as an IC, 7.62mm (.300"), can be assembled by any automatic IC Inserter
- Tape sealed to withstand solder vapors and board washing
- All plastics used are UL 94V-0 grade fire retardant
- Twin contact design to ensure stable contact
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (*gold/tin*)
- Standard packing method Tube

How to order

DAM – 1 xx – XXxx Z

Contact Form	Nbr of positions	Actuator, Sealing and DIP Space
1 = SPST	**see under position/dimension box above** Example: 1 Position = **01** 2 Position = **02** etc.	**L** = Low profile Actuator and DIP space 8.50mm **LT** = Low profile Actuator & Tape sealed & DIP space 8.50mm **L01** = Low profile Actuator and DIP space 7.62mm **LT01** = Low profile Actuator & Tape sealed & DIP space 7.62mm **E** = Extended Actuator and DIP space 7.62mm **E01** = Extended Actuator and DIP space 8.50mm

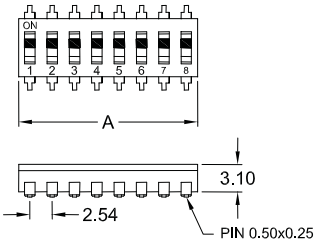
DSD / DSL Series

SLIDE *END STACKABLE* "SMT" TYPE

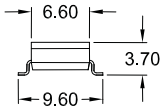
RoHS 2002/95/EC compliant

E-tec Interconnect

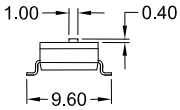
DSD Gull Wing Type



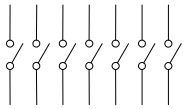
Low Profile Actuator



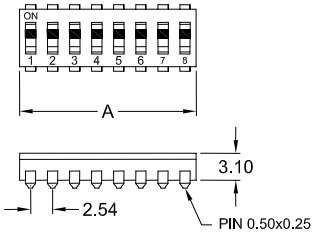
Extended Actuator



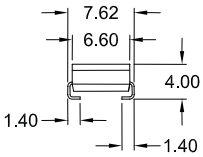
Circuit diagram



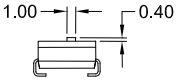
DSL J-Leg Type



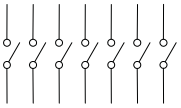
Low Profile Actuator



Extended Actuator



Circuit diagram



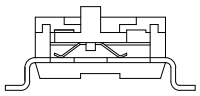
Position	1	2	3	4	5	6	7	8	9	10	12
Dim. "A"	2.50	5.04	7.58	10.12	12.66	15.20	17.74	20.28	22.82	25.36	30.43

DSL Series: 1 position switch is not available

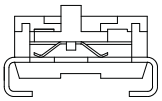
Unit: mm

Construction

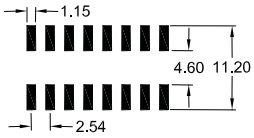
DSD



DSL



PCB SMT Layout



Options

1. Special marking and body color available

2. Tape sealed

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec.
Operating Force	800 gf max.
Mechanical Life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- End stackable for standard 2.54mm (.100") integrated circuit pitch
- Tape sealed to withstand solder vapors and board washing
- All plastics used are UL 94V-0 grade fire retardant
- Twin contact design to ensure stable contact
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (*gold*/*tin*)

How to order

DSX – 1 xx – XX Z

Series

DSD = Gull Wing Type

DSL = J-Leg Type

Nbr of positions

see under position/dimension box above

Example:
1 Position = **01**
2 Position = **02**
etc.

Actuator, Sealing and Packing

L = Low Profile Actuator; Tube packing

LT = Low Profile Actuator & Tape sealed; Tube packing

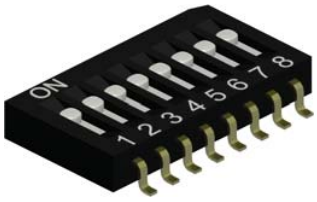
LC = Low Profile Actuator; Reel packing

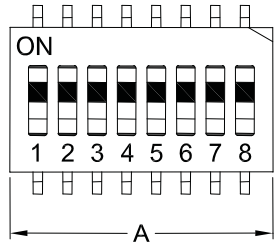
LD = Low Profile Actuator & Tape sealed; Reel packing

E = Extended Actuator; Tube packing

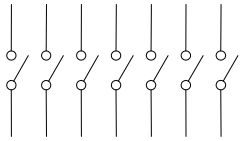
DHS Series

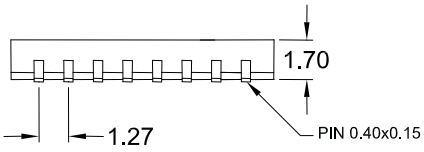
SLIDE *HALF PITCH (1.27mm)* "SMT" TYPE

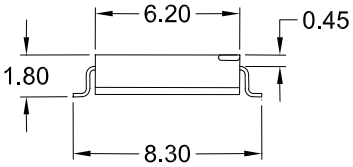




Circuit diagram



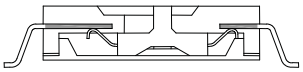




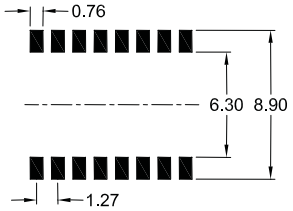
Position	2	4	6	8	10
Dim. "A"	3.70	6.20	8.75	11.30	13.80

Unit: mm

Construction

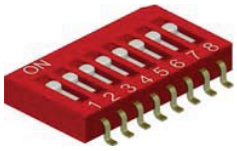


PCB SMT Layout



Options

1. Special marking and body color available



2. Tape sealed

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	500 MΩ min. at 100 V DC
Withstanding Voltage	300 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec.
Operating Force	800 gf max.
Mechanical Life	1000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- End stackable for standard 1.27mm (.050″) integrated circuit pitch
- Lowest profile DIP Switch, only 1.80mm above PCB
- Tape sealed to withstand solder vapors and board washing
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts, contact & solder area (*gold*/*gold*), to ensure low contact resistance

How to order

DHS – x xx – XX Z

Contact Form	Nbr of positions	Actuator, Sealing and Packing
1 = SPST	**see under position/dimension box above** Example: 1 Position = **02** 2 Position = **04** etc.	**L** = Low Profile Actuator; Tube packing **LT** = Low Profile Actuator & Tape sealed; Tube packing **LC** = Low Profile Actuator; Reel packing **LD** = Low Profile Actuator & Tape sealed; Reel packing

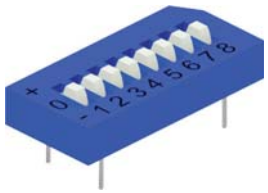
DTD / DTA / DTS Series

SLIDE *TRI-STATE* "THT" & "SMT" TYPE

RoHS 2002/95/EC compliant

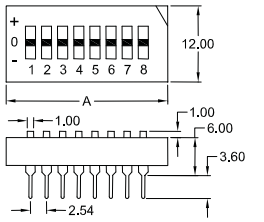
E-tec Interconnect

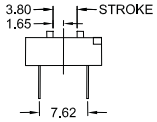
DTD

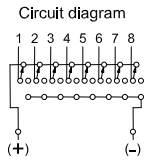


Position	4	5	6	7
Dim. "A"	15.30	17.84	20.38	22.92
Position	**8**	**9**	**10**	
Dim. "A"	25.46	28.00	30.54	

Unit: mm



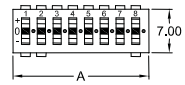


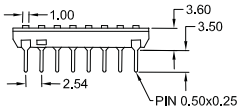


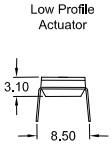
DTA

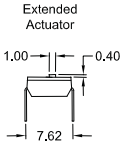
Position	2	3	4	5
Dim. "A"	6.88	9.42	11.96	14.50
Position	**6**	**7**	**8**	**9**
Dim. "A"	17.04	19.58	22.12	24.66
Position	**10**	**12**		
Dim. "A"	27.20	32.28		

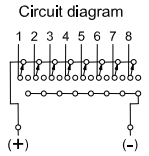
Unit: mm



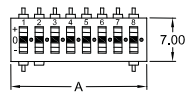


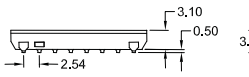


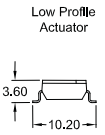


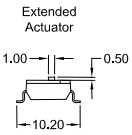


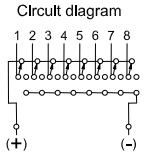
DTS





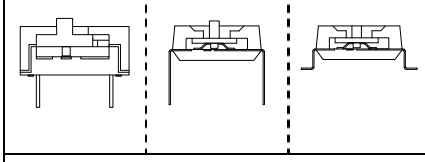






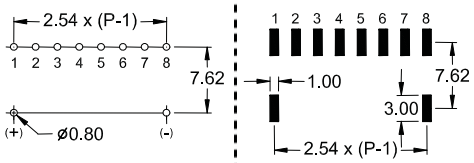
Construction

DTD DTA DTS



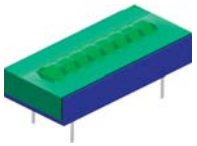
PCB Hole/SMT Layout

DTD / DTA DTS

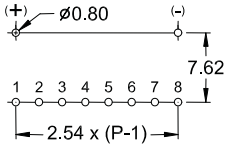


Options

1. Tape sealed



2. Reverse PCB Layout available



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- With three state (1-open-0) setting function, especially suitable for encoding/decoding of tri-state encoder/decoder integrated circuit to obtain more security codes than traditional two-state (1-0) operation. For instance, 9 bits with tri-state gets 19,683 (3^9) codes, while two-state has 512 (2^9) codes, gains 38 times in former
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (*gold/tin)*
- Twin contacts designed to ensure stable contact
- Ideal for Telecommunication, Transmitter, Remote Control and Burglar Alarm Systems which use integrated circuits with tri-state coding systems
- Standard packing method Tube

How to order

DTX – 1 xx – XX Z

Series

DTD = Bottom Epoxy Sealed THT Type
DTA = Low Profile THT Type
DTS = Low Profile SMT Type

Nbr of positions

see under position/dimension box above

Example:
2 Position = **02**
3 Position = **03**
etc.

Actuator and Sealing

E = Extended Actuator
ET = Extended Actuator & Tape sealed

Low Profile Actuator for DTA & DTS Series only!

L = Low Profile Actuator
LT = Low Profile Actuator & Tape sealed

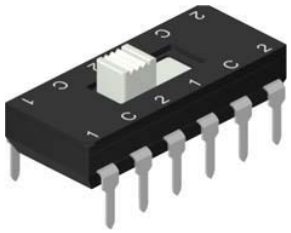
DSP Series

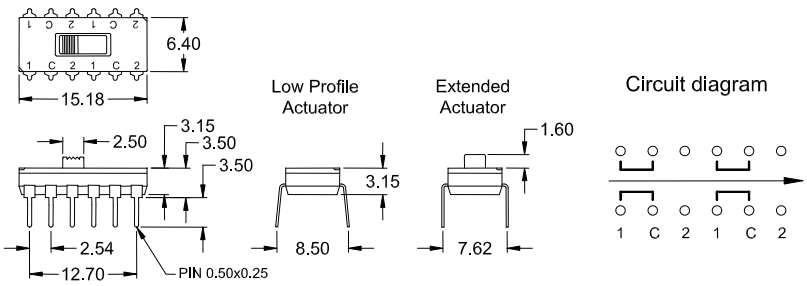
SELECTOR SLIDE SWITCH *"THT" & "SMT"* TYPE

RoHS 2002/95/EC compliant

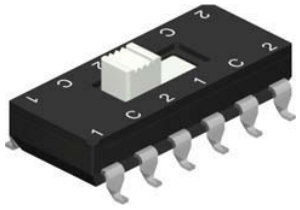
E-tec Interconnect

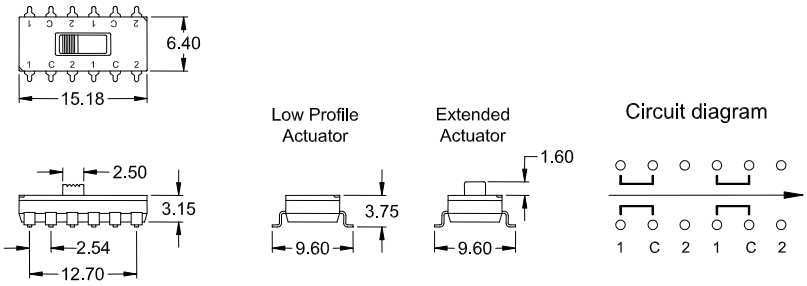
***DSP**-42-XX **01** Z* (THT Type)





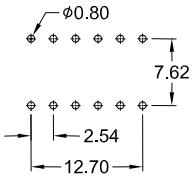
***DSP**-42-XX **02** Z* (SMT Type)



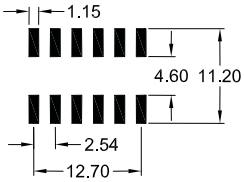


PCB Layout

DSP-42-XX 01 Z (THT Type)

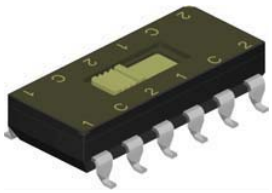


DSP-42-XX 02 Z (SMT Type)



Option

Tape sealed



Application

Ideal as Function and Band Selector Switch in Radio-Cassette, Recorder, Office Equipment, TV sets, VCR etc.

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-Switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec. max.
-THT wave soldering	250°C +0/-5°C for 10 sec. max.
Operating Force	100 gf min / 1000 gf max.
Mechanical Life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Same size as an IC, 7.62mm (.300"), can be assembled by any automatic IC Inserter
- Top tape sealed to withstand solder vapors and board washing
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts to ensure low contact resistance and tin plated terminal to prevent contamination during soldering

How to order

DSP – 42 – XX xx Z

Contact Form
42 = 4PDT

Device Type, Actuator, DIP Space & Packing			
L	**01**	=	THT Type; Low Profile Actuator DIP space 8.50mm; Tube packing
LT	**01**	=	THT Type; Low Profile Actuator DIP space 8.50mm; Top sealed; Tube packing
E	**01**	=	THT Type; Extended Actuator DIP space 7.62mm; Tube packing
L	**02**	=	SMT Type; Low Profile Actuator; Tube packing
LT	**02**	=	SMT Type; Low Profile Actuator; Top sealed; Tube packing
LC	**02**	=	SMT Type; Low Profile Actuator; Reel packing
LD	**02**	=	SMT Type; Low Profile Actuator; Top sealed; Reel packing
E	**02**	=	SMT Type; Extended Actuator; Tube packing
EC	**02**	=	SMT Type; Extended Actuator; Reel packing

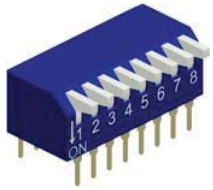
DPG / DPS Series

PIANO *STANDARD PROFILE* "THT" TYPE

RoHS 2002/95/EC compliant

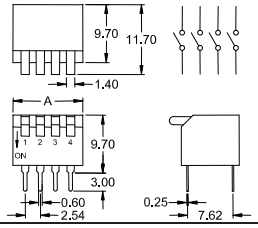
E-tec Interconnect

SPST Contact Form

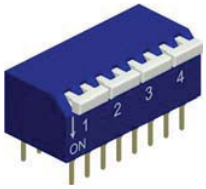


Position	2	3	4	5	6
Dim. "A"	6.70	9.20	11.70	14.20	16.70
Position	**7**	**8**	**9**	**10**	**12**
Dim. "A"	19.20	21.70	24.20	26.70	31.80

Unit: mm

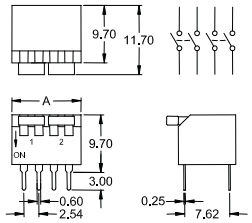


DPST Contact Form

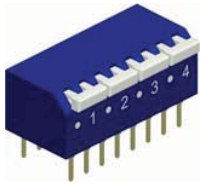


Position	1	2	3	4	5	6
Dim. "A"	6.70	11.70	16.70	21.70	26.70	31.80

Unit: mm

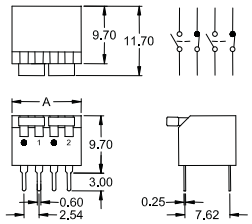


SPDT Contact Form

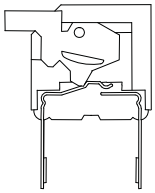


Position	1	2	3	4	5	6
Dim. "A"	6.70	11.70	16.70	21.70	26.70	31.80

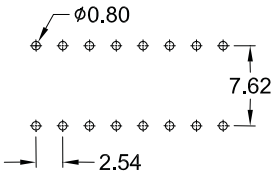
Unit: mm



Construction

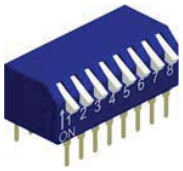


PCB Hole Layout



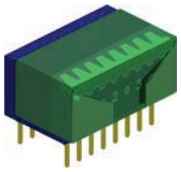
Options

1. Top side "OFF" and "ON" available



2. Black body color available

3. Tape sealed



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	1000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Edge actuated (piano type) easy setting on closely racked PCB
- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- All plastic are UL 94V-0 grade fire retardant
- Bottom epoxy sealed standard to ensure free of flux immersion during wave soldering
- Contact wiping on make and break
- Gold plated (*gold*/*gold*) or Tin plated contact to ensure low contact resistance and long operation life
- Ideal for Data Processing, Telecommunication, Remote Control and Burglar Alarm System use, where manual programming is required

How to order

DPX – x xx – XX Z

Series

DPG = Gold plated Contacts

DPS = Tin plated Contacts

Contact Form

1 = SPST

2 = DPST

3 = SPDT

Nbr of positions

see under position/dimension box above

Example:
1 Position = **01**
2 Position = **02**
etc.

"ON/OFF" Position and Sealing

A = Top side OFF

AT = Top side OFF & Tape sealed

B = Top side ON

BT = Top side ON & Tape sealed

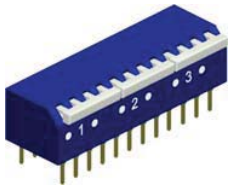
DPG / DPS Series

PIANO *STANDARD PROFILE* "THT" TYPE

RoHS 2002/95/EC compliant

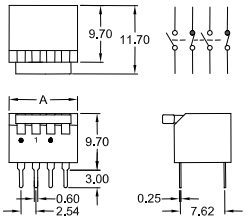
E-tec Interconnect

DPDT Contact Form

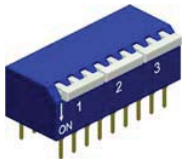


Position	1	2	3
Dim. "A"	11.70	21.70	31.80

Unit: mm

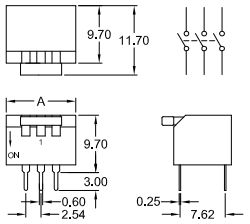


3PST Contact Form

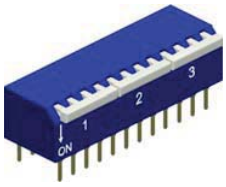


Position	1	2	3	4
Dim. "A"	9.20	16.70	24.20	31.80

Unit: mm

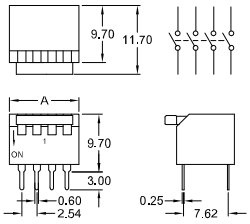


4PST Contact Form

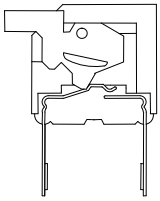


Position	1	2	3
Dim. "A"	11.70	21.70	31.80

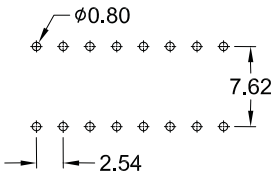
Unit: mm



Construction



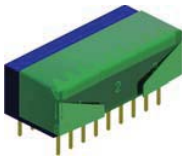
PCB Hole Layout



Options

1. Black body color available

2. Tape sealed



Application

Ideal for Data Processing, Telecommunication, Remote Control and Burglar Alarm System use, where manual programming is required.

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-Switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating temperature	- 25°C to +70°C
Storage temperature	- 40°C to +85°C
Operating force	800 gf max.
Mechanical life	1000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Edge actuated (piano type) easy setting on closely racked PCB
- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- Bottom epoxy sealed standard to ensure free of flux immersion during wave soldering
- Contact wiping on make and break
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated (*gold*/*gold*) or Tin plated contact to ensure low contact resistance and long operation life

How to order

DPX – x xx – XX Z

Series

DPG = Gold plated Contacts

DPS = Tin plated Contacts

Contact Form

4 = 3PST

5 = 4PST

6 = DPDT

Nbr of positions

see under position/dimension box above

Example:
1 Position = **01**
2 Position = **02**
etc.

Actuator and Sealing

A = Top side OFF

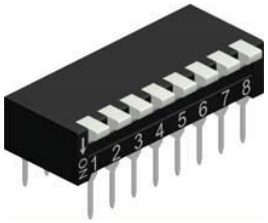
AT = Top side OFF & Tape sealed

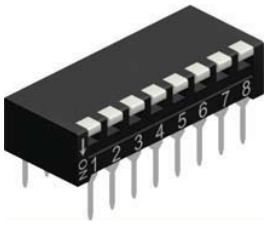
B = Top side ON

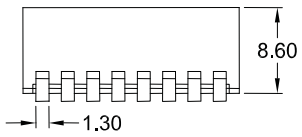
BT = Top side ON & Tape sealed

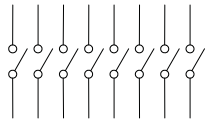
DPH Series

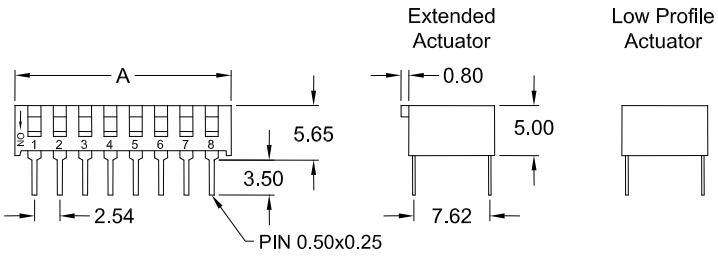
PIANO *LOW PROFILE* "THT" TYPE







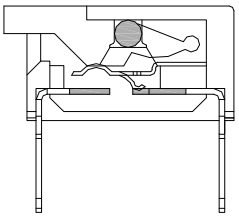




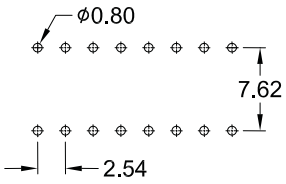
Position	2	4	6	8	10
Dim. "A"	6.50	11.60	16.70	21.70	26.70

Unit: mm

Construction

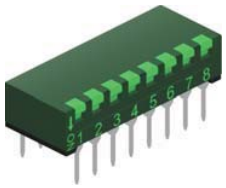


PCB Hole Layout



Option

Tape sealed



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-Switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Operating Force	800 gf max.
Mechanical Life	1000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Edge actuated (piano type) easy setting on closely racked PCB
- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- All plastic are UL 94V-0 grade fire retardant
- Twin contact design to ensure stable contact
- Contact wiping on make and break
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (***gold***/***tin***)

How to order

DPH – 1 xx – XX Z

Nbr of positions

see under position/dimension box above

Example:
2 Position = **02**
4 Position = **04**
etc.

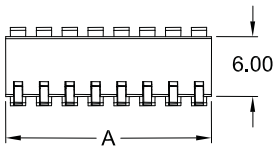
Actuator and "ON/OFF" Position

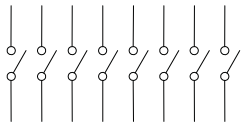
LA = Low Profile Actuator
EA = Extended Actuator
LAT = Low Profile Actuator & Tape sealed

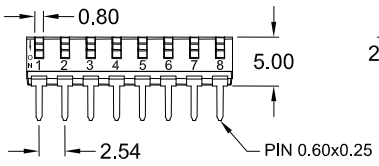
the DPH Series is basically "Top Side OFF"

DPI Series

PIANO *LOW PROFILE* "THT" TYPE END STACKABLE

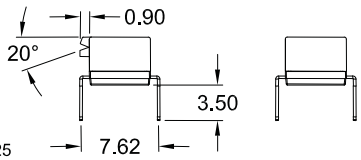






Extended Actuator

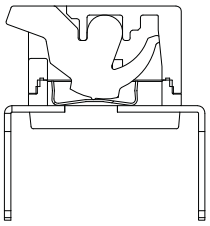
Low Profile Actuator



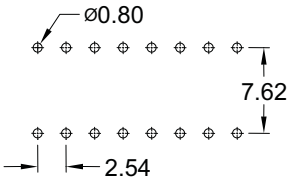
Position	2	4	6	8	10
Dim. "A"	4.98	10.06	15.15	20.22	25.30

Unit: mm

Construction



PCB Hole Layout



Precautions in Handling

Do not wash the switch!

Washable Type not available.

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	100 mΩ max.
-after life test	200 mΩ max.
Insulation Resistance	100 MΩ min. at 500 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max..

Mechanical and Environmental data

Operating Temperature	- 20°C to +85°C
Storage Temperature	- 40°C to +85°C
Operating Force	800 gf max.
Mechanical Life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- End stackable for standard 2.54mm (.100″) integrated circuit pitch
- Twin contact design to ensure stable contact
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts, contact & solder area (***gold***/***gold***), to ensure low contact resistance

How to order

DPI – 1 xx – XX 1 0 Z

Nbr of positions

see under position/dimension box above

Example:
2 Position = **02**
4 Position = **04**
etc.

Actuator and "ON/OFF" Position

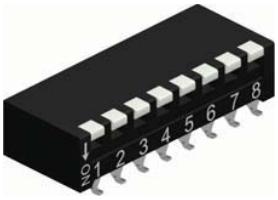
EA = Extended Actuator; Top side OFF
EB = Extended Actuator; Top side ON
LA = Low profile Actuator; Top side OFF
LB = Low profile Actuator; Top side ON

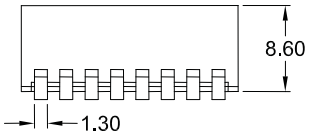
Packing

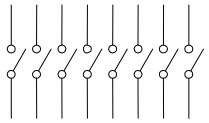
0 = Tube packing

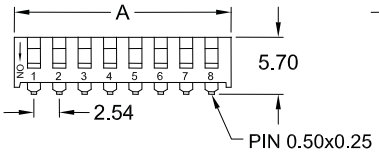
DPA Series

PIANO *LOW PROFILE* "SMT" TYPE

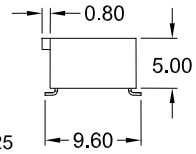








Extended Actuator

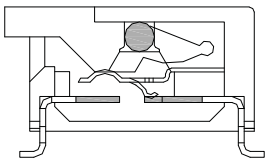


Low Profile Actuator

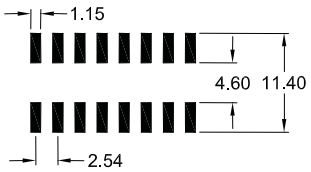
Position	2	4	6	8	10
Dim. "A"	6.50	11.60	16.70	21.70	26.70

Unit: mm

Construction

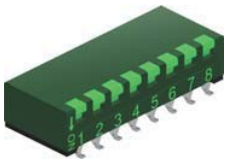


PCB SMT Layout



Option

Tape sealed



SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-Switching	100 mA, 50 V DC
Contact Resistance	
-initial	50 mΩ max.
-after life test	100 mΩ max.
Insulation Resistance	1000 MΩ min. at 100 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max.

Mechanical and Environmental data

Operating Temperature	- 25°C to +70°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec.
Operating Force	800 gf max.
Mechanical Life	1000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- Edge actuated (piano type) easy setting on closely racked PCB
- Tactile response is performed directly by larger contact pressure to ensure very stable contact
- All plastic are UL 94V-0 grade fire retardant
- Twin contact design to ensure stable contact
- Contact wiping on make and break
- Gold plated contacts to ensure low contact resistance, and tin plated terminal to prevent contamination during soldering (*gold*/*tin*)

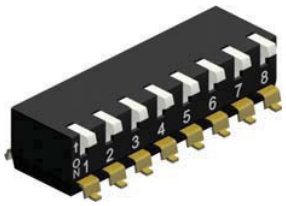
How to order

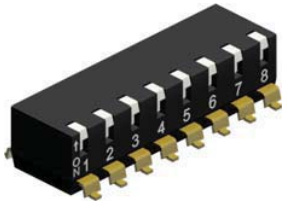
DPA – 1 xx – XX Xx Z

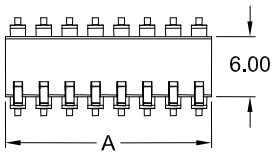
Nbr of positions	Actuator and "ON/OFF" Position	Packing and Sealing
see under position/dimension box above Example: 2 Position = **02** 4 Position = **04** etc.	**EA** = Extended Actuator; Top side OFF	**00** = Tube packing **10** = Reel packing
	LA = Low Profile Actuator; Top side OFF	**00** = Tube packing **10** = Reel packing **T0** = Tube packing & Tape sealed **T1** = Reel packing & Tape sealed

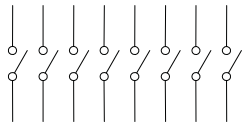
DPM Series

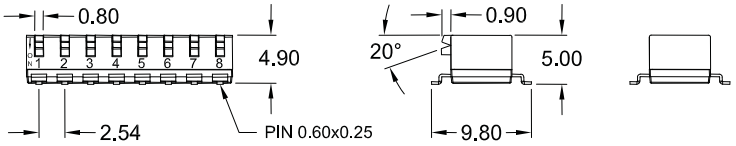
PIANO *LOW PROFILE* "SMT" TYPE END STACKABLE







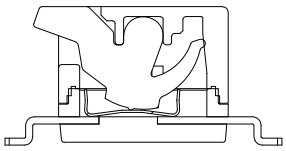




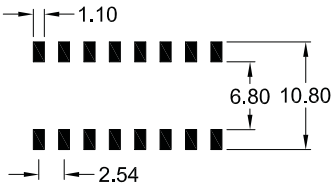
Position	2	4	6	8	10
Dim. "A"	4.98	10.06	15.15	20.22	25.30

Unit: mm

Construction



PCB SMT Layout



Precautions in Handling

Do not wash the switch!

Washable Type not available.

SPECIFICATIONS

Electrical data

Contact Rating	
-switching	25 mA, 24 V DC
-non-switching	100 mA, 50 V DC
Contact Resistance	
-initial	100 mΩ max.
-after life test	200 mΩ max.
Insulation Resistance	100 MΩ min. at 500 V DC
Withstanding Voltage	500 V AC for 1 Minute
Capacitance between adjacent switches	5 pF max..

Mechanical and Environmental data

Operating Temperature	- 20°C to +85°C
Storage Temperature	- 40°C to +85°C
Soldering Temperature	
-SMT reflow soldering	250°C +0/-5°C for 10 sec.
Operating Force	800 gf max.
Mechanical Life	2000 operations
Vibration	10 Hz – 50 Hz – 10 Hz for 6 hours

FEATURES

- End stackable for standard 2.54mm (.100″) integrated circuit pitch
- Twin contact design to ensure stable contact
- All plastics used are UL 94V-0 grade fire retardant
- Gold plated contacts, contact & solder area (*gold*/*gold*), to ensure low contact resistance

How to order

DPM – 1 xx – XX 1 xx Z

Nbr of positions

see under position/dimension box above

Example:
2 Position = **02**
4 Position = **04**
etc.

Actuator and "ON/OFF" Position

EA = Extended Actuator; Top side OFF
EB = Extended Actuator; Top side ON

LA = Low profile Actuator; Top side OFF
LB = Low profile Actuator; Top side ON

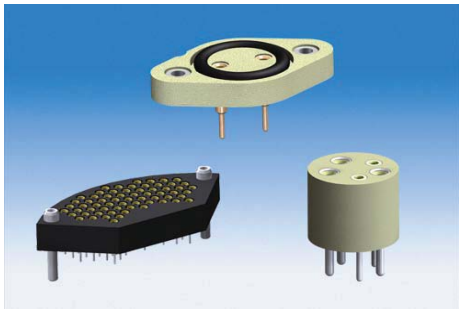
Packing

10 = Tube packing
11 = Reel packing

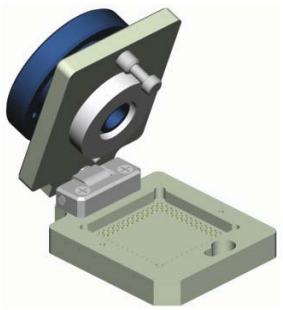
10 = Tube packing
11 = Reel packing
T0 = Tube packing & Tape sealed
T1 = Reel packing & Tape sealed

Other products from E-tec

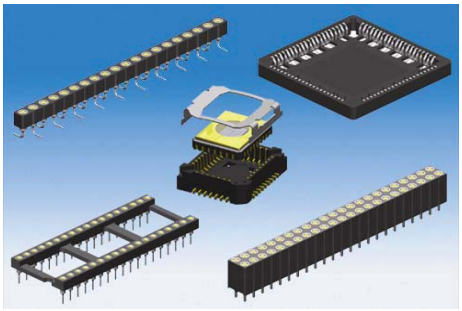
Please contact your closest sales office for further information.



Customized Products

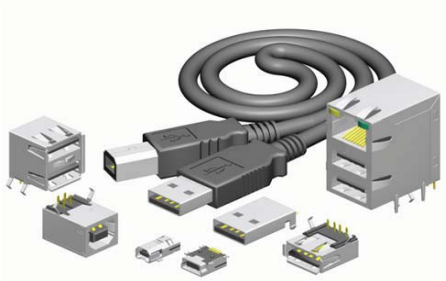


Test Sockets & Adapters

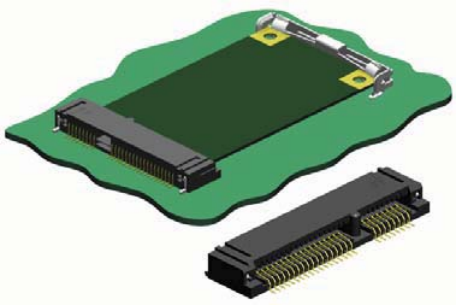


IC - Sockets

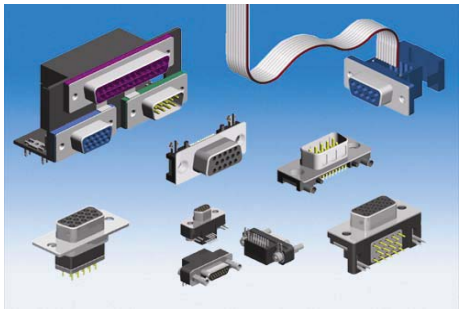
Compact Flash Connectors



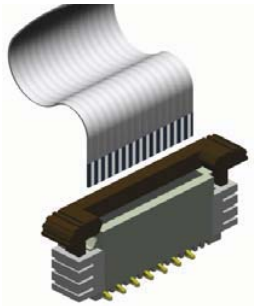
USB & IEEE 1394 Connectors



Mini PCI Express Connectors



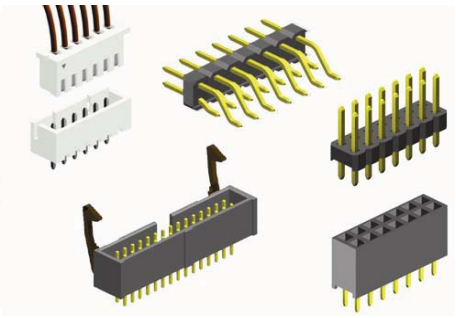
D-Sub Connectors



Flex Cable Connectors

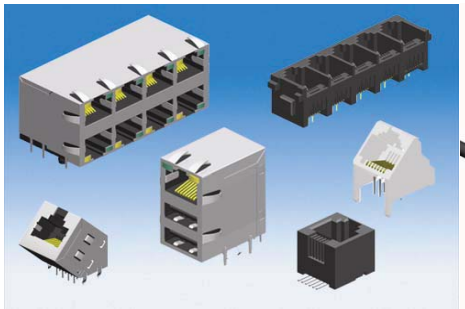
HDMI Connectors

Probe Pin & Probe Pin Connectors



PCB Connectors

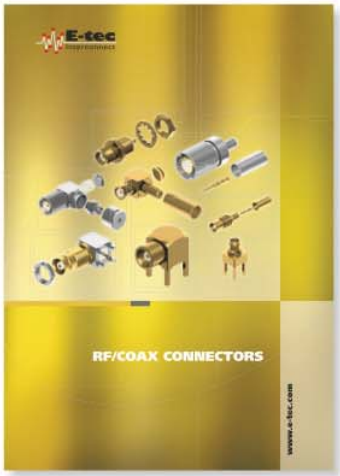
Multi Media Card Connectors



Modular Plugs & Jacks

Phono - & DC - Power Connectors

RF - Connectors



International Sales Headquarters

Switzerland
Schweiz
Suisse

E-tec Interconnect Ltd.
Chemin du Grand-Pré 9A
CH-1510 Moudon
Phone: +41/21/781 08 10
Fax: +41/21/781 08 11
e-mail: info@e-tec.com
www.e-tec.com

Related Sales Headquarters

Deutschland
Germany
Allemagne

EMC electro mechanical
components GmbH
PO Box/Postfach 11 60
D-65501 Idstein
Phone: +49/61 26/93 95-0
Fax: +49/61 26/93 95-72
e-mail: info@emc-connectors.com
www.emc-connectors.com

France
Frankreich

Silfox SA
PA des Petits Carreaux
2 bis avenue des Coquelicots
F-94385 BONNEUIL
SUR MARNE CEDEX
Phone: +33/1/49 56 04 68
Fax: +33/1/49 56 02 87
e-mail: info@silfox.fr
www.silfox.fr

England
Angleterre

E-tec Interconnect (UK) Ltd.
Units A5 & A6 Decimus Park
Kingstanding Way
Tunbridge Wells
Kent TN2 3GP
Phone: +44/1892/53 02 60
Fax: +44/1892/51 55 60
e-mail: info@e-tec.co.uk
www.e-tec.co.uk

Factories

Switzerland
Schweiz
Suisse

E-tec AG
Friedhofstrasse 1
CH-2543 Lengnau b. Biel
Phone: +41/32/654 15 50
Fax: +41/32/652 26 93
e-mail: info@etecag.ch
www.etecag.ch

Taiwan

E-tec Interconnect Asia Ltd.
10F-2, No. 379, Jhongshan Road
Sanchong Dist. New Taipei City
Taiwan R.O.C.
Phone: +886/2/2 999-2726
Fax: +886/2/2 999-5255
e-mail: info@e-tec-asia.com.tw
www.e-tec-asia.com.tw

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