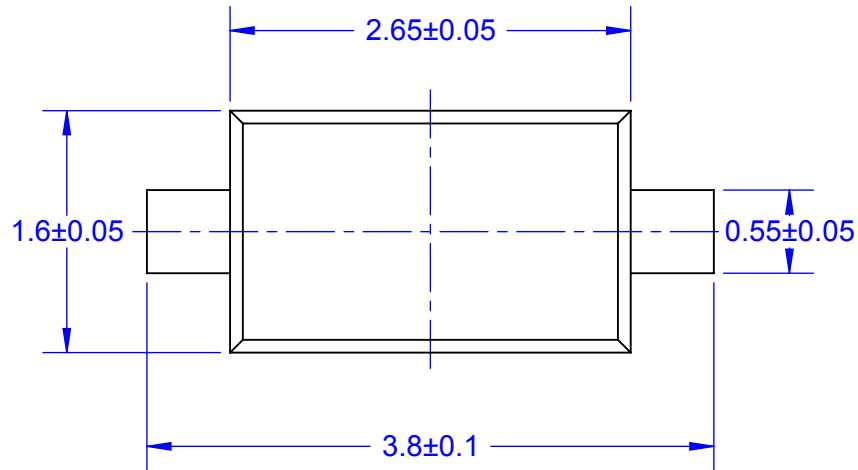
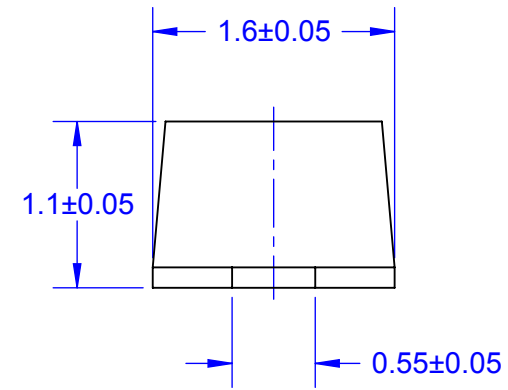


# SOD123F OUTLINE FLAT NARROW LEADS

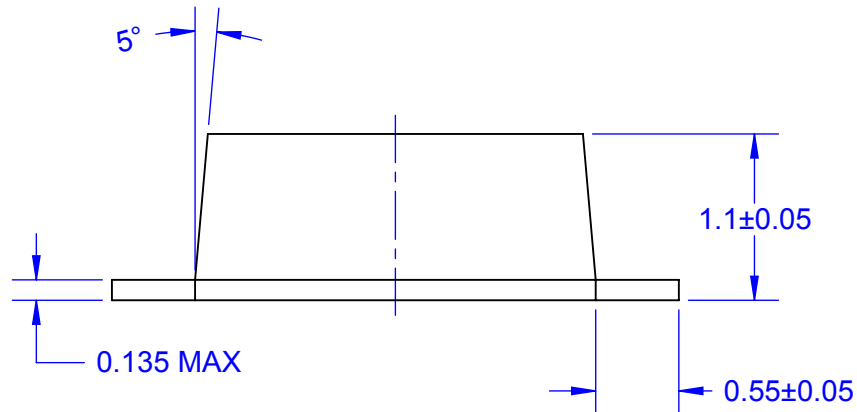
TOP VIEW



END VIEW

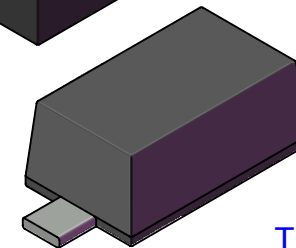
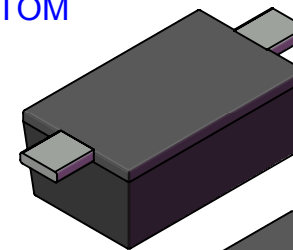


SIDE VIEW



MODEL

BOTTOM



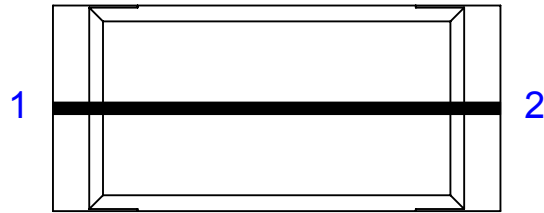
TOP

Notes: (Unless Otherwise Specified).

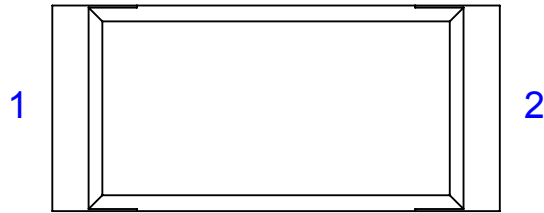
- 1) DIMENSIONS IN mm.
- 2) SEE JUMPER AND SPACER DIAGRAMS (PAGE 2).
- 3) SEE PART NUMBER CONFIGURATION (PAGE 4).
- 4) RECOMMENDED PC BOARD LAYOUT PATTERN (PAGE 5).
- 5) MOUNTING POSITION: ANY (NON-POLARIZED).
- 6) CASE: UL94-V RATED FLAME RETARDANT.

APPROVALS		DATE	<b>TopLine®</b>			
DRAWN	T.Au	01/15/13				
ENG	M. Hart	01/15/13	TITLE			
MFG			SOD123F JUMPER AND SPACER			
QA			SCALE	SIZE	DRAWING NO.	REV
CUST			20:1	A	130324	A
REVISED			DO NOT SCALE DRAWING			SHEET 1 OF 7

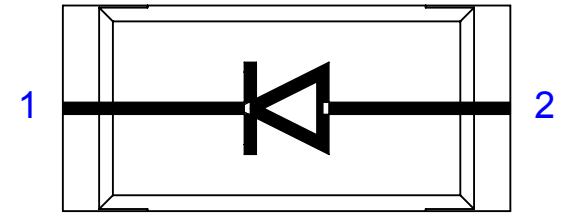
**INTERNAL WIRING CIRCUIT**  
**PART NUMBER SUFFIX**  
**TOP VIEW**



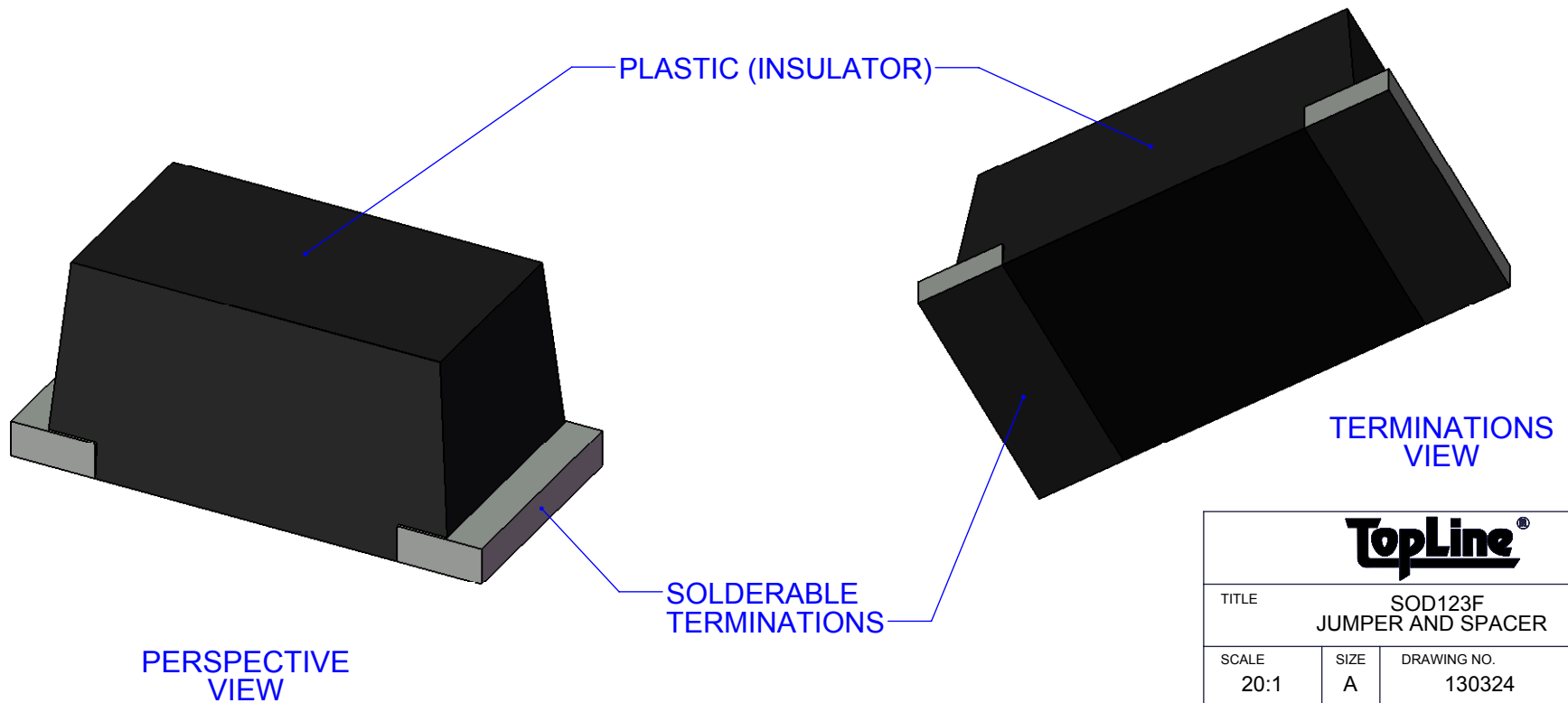
**DC12**  
**1-WIRE**  
**CIRCUIT JUMPER**



**ISO**  
**NO CONNECTION**  
**FULLY ISOLATED**  
**NON-CONDUCTIVE SPACER**

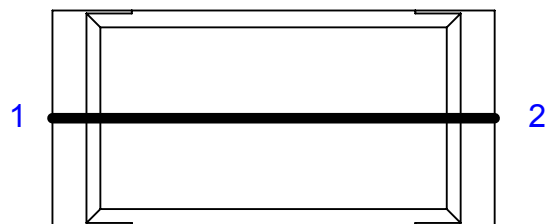


**BLANK SUFFIX**  
**UNDEFINED CIRCUIT**  
**DUMMY**



<b>TopLine®</b>			
TITLE		SOD123F JUMPER AND SPACER	
SCALE	SIZE	DRAWING NO.	REV
20:1	A	130324	A
DO NOT SCALE DRAWING			SHEET 2 OF 7

**SCHEMATIC EQUIVALENT INTERNAL CIRCUIT**



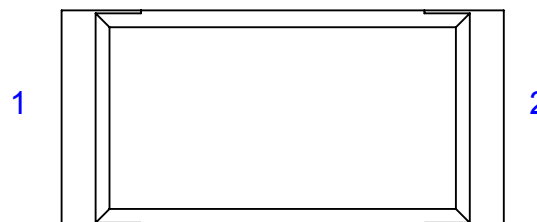
DC12  
(SHORT CIRCUIT)



$R_{LF}$  (LEAD FRAME)

ELECTRICAL RESISTANCE MILLIOHM (DC) MAX	
CIRCUIT	PIN 1 TO PIN 2
DC12	50 milli $\Omega$

**SCHEMATIC EQUIVALENT INTERNAL CIRCUIT**



ISOLATED CIRCUIT  
NO CONNECTIONS



$I_R$  (INSULATION RESISTANCE)

INSULATION RESISTANCE GIGA OHM (DC) MIN	
CIRCUIT	PIN 1 TO PIN 2
ISO	> 10 G $\Omega$

THERMAL RESISTANCE	PART TYPE										
	SOD123FW	SMA-F	SMB-F	SMC-F	SOD123G	SOD123F	SOD323G	SOD323F	SOD523	SOD723	SOD923
JUNCTION TO AMBIENT ( $T_a=25^\circ$ ) $R_{\theta(j-a)}$	60°C/W	50°C/W	12°C/W	47°C/W	50°C/W	30°C/W			500°C/W		1250°C/W

MAXIMUM ELECTRICAL (DC) RATING	PART TYPE										
	SOD123FW	SMA-F	SMB-F	SMC-F	SOD123G	SOD123F	SOD323G	SOD323F	SOD523	SOD723	SOD923
$V_R$ WORKING VOLTAGE	1000V	1000V	1000V	1000V	100V	100V	100V	100V	100V	100V	100V
$V_F$ FORWARD @ RATED CURRENT	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V	< 0.2V
$I_o$ FORWARD CURRENT	0.5 A	1.0 A	2.0 A	3.0 A	0.25 A	0.5 A	0.25 A	0.5 A	0.25 A	0.25 A	0.25 A
$I_{FSM}$ FORWARD SURGE CURRENT	30 A	30 A	70 A	100 A	4.0 A	30 A	4.0 A	4.0 A	4.0 A	4.0 A	4.0 A
$I_R$ REVERSE CURRENT	0.5 A	1.0 A	2.0 A	3.0 A	0.25 A	0.5 A	0.25 A	0.5 A	0.25 A	0.25 A	0.25 A
$C_j$ JUNCTION CAPACITANCE	15 pF	15 pF	30 pF	40 pF	4 pF	9 pF	4 pF	9 pF	5 pF	5 pF	4 pF

TEMPERATURE RATING	
JUNCTION TEMP $T_j$	150°C
STORAGE TEMP $T_{stg}$	-65°C TO 150°C
PEAK REFLOW TEMP $T_{reflow}$ 10 SECONDS	260°C

**TopLine®**

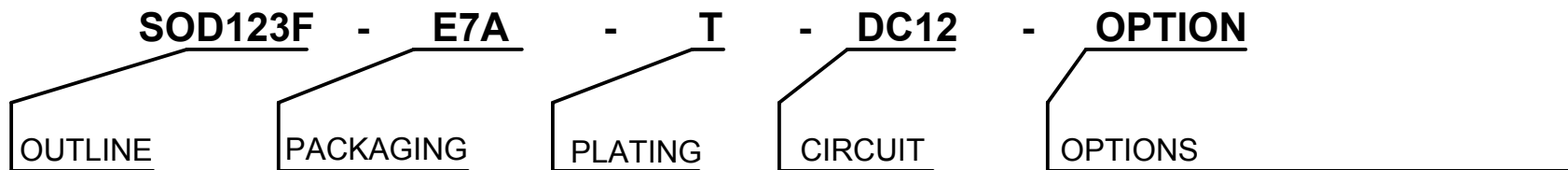
TITLE  
SOD123F  
JUMPER AND SPACER

SCALE 15:1	SIZE A	DRAWING NO. 130324	REV A
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DO NOT SCALE DRAWING

SHEET3 OF 7

# PART NUMBERING SYSTEM



E4A 4-INCH REEL

E7A 7-INCH REEL

E13A 13-INCH REEL

T =  
Pb-FREE  
RoHS  
LEAD FREE

Sn100  
MATTE TIN  
5µm THICK

DAISY CHAIN  
JUMPER

DC12 = PIN 1-2

ISO = ISOLATED CIRCUIT  
NO CONNECTIONS

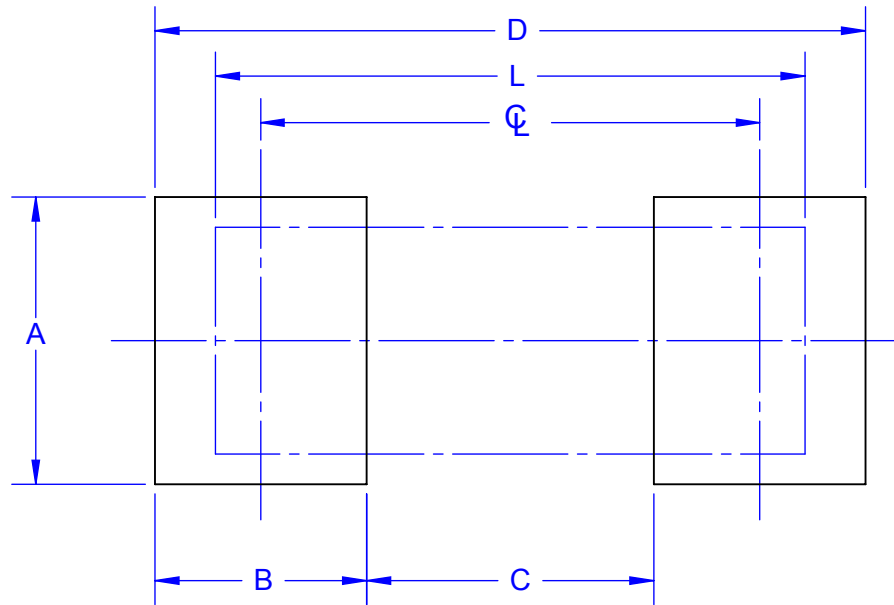
BLANK = DUMMY  
UNDEFINED

BLANK - COMMERCIAL GRADE (STANDARD)

OUTLINE	REEL QTY	NOTES	RoHS	MSL LEVEL	HALOGEN FREE	APPLICATION	TOP MARK	REF	DP#
SOD123FW-E7A-T-DC12	2500	SHORT CIRCUIT	YES	1	YES	JUMPER	S	FM400S-M	171230
SMAF-E7A-T-DC12	2000	SHORT CIRCUIT	YES	1	YES	JUMPER	SC	FM400S	161001
SMAF-E13A-T-DC12	7500	SHORT CIRCUIT	YES	1	YES	JUMPER	SC	FM400S	167084
SMBF-E13A-T-DC12	4000	SHORT CIRCUIT	YES	1	YES	JUMPER	SC	FM20S-B	151076
SMCF-E13A-T-DC12	3000	SHORT CIRCUIT	YES	1	YES	JUMPER	SC	FM30S	158061
SOD123G-DC12	3000	SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD123F-DC12		SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD323G-DC12	3000	SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD323F-DC12		SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD523-DC12	3000	SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD723-DC12		SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD923-DC12		SHORT CIRCUIT	YES	1	YES	JUMPER	12		
SOD123FW-E7A-T-ISO	2500	OPEN CIRCUIT	YES	1	YES	SPACER	N	FM400N-M	164321
SMAF-E7A-T-ISO	2000	OPEN CIRCUIT	YES	1	YES	SPACER	NC	FM400N	173077
SMAF-E13A-T-ISO	7500	OPEN CIRCUIT	YES	1	YES	SPACER	NC	FM400N	172043
SMBF-E13A-T-ISO	4000	OPEN CIRCUIT	YES	1	YES	SPACER	NC	FM20N-B	130472
SMCF-E13A-T-ISO	3000	OPEN CIRCUIT	YES	1	YES	SPACER	NC	FM30N	167024
SOD123G-ISO	3000	OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD123F-ISO		OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD323G-ISO	3000	OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD323F-ISO		OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD523-ISO	3000	OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD723-ISO		OPEN CIRCUIT	YES	1	YES	SPACER	NC		
SOD923-ISO		OPEN CIRCUIT	YES	1	YES	SPACER	NC		

TopLine®			
TITLE			
SOD123F JUMPER AND SPACER			
SCALE	SIZE	DRAWING NO.	REV
1:1	A	130324	A
DO NOT SCALE DRAWING			SHEET 4 OF 7

## PC BOARD LAND PATTERN



ALL DIMENSIONS IN mm

### PCB PAD DIMENSIONS

SYMBOL	SOD123FW	SOD123F	SOD123G	SOD323FW	SOD323F	SOD323G	SOD523	SOD723	SOD923	SMAF	SMBF	SMCF
A	1.90	1.0	1.0	1.4	0.7	0.7	0.6	0.5	0.4	2.8	3.60	4.80
B	1.40	1.1	0.8	1.25	0.9	0.9	0.7	0.6	0.5	1.6	1.50	1.60
C	1.90	2.6	2.8	1.0	1.7	1.7	1.2	1.0	0.8	2.2	3.00	4.60
D	4.70	4.8	4.7	3.5	3.5	3.6	2.6	2.2	2.0	5.4	6.00	7.80
Q	3.3	3.7	3.6	2.25	2.6	2.7	1.9	1.6	1.3	3.8	4.50	6.2
L	3.7	3.8	3.7	2.5	2.5	2.6	1.6	1.4	1.0	4.5 - 4.9	5.0 - 5.4	6.3 - 6.9

Notes: (Unless Otherwise Specified).

1) DIMENSIONS IN mm.

2) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.  
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.

**TopLine®**

TITLE SOD123F  
JUMPER AND SPACER

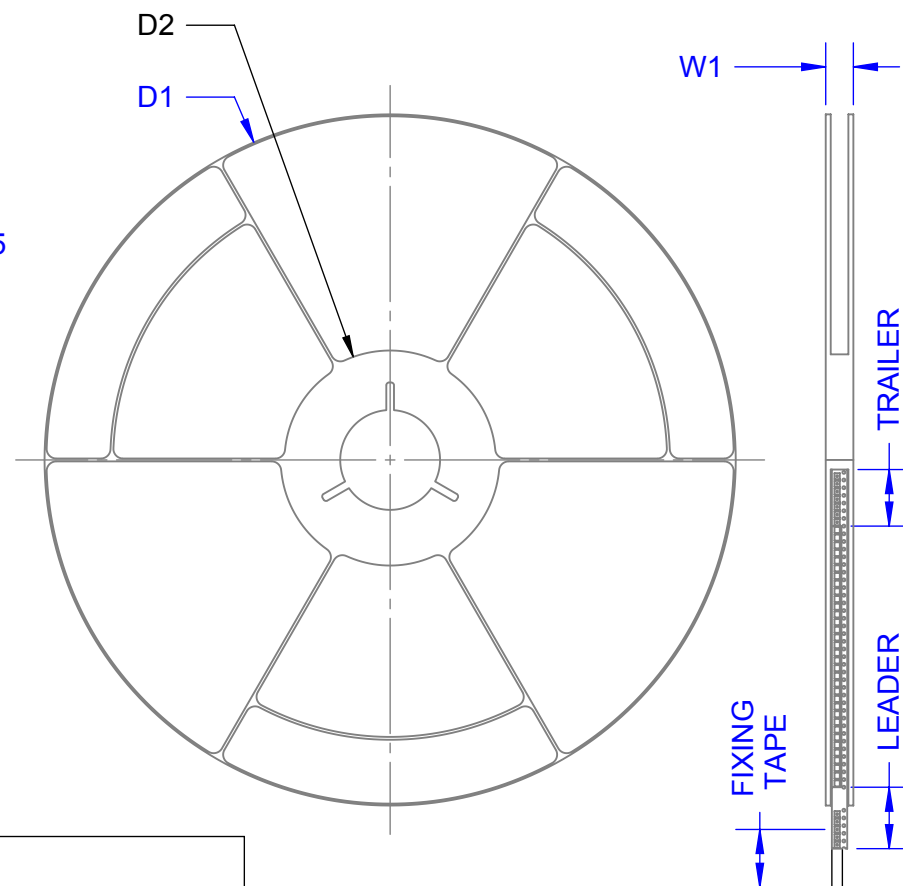
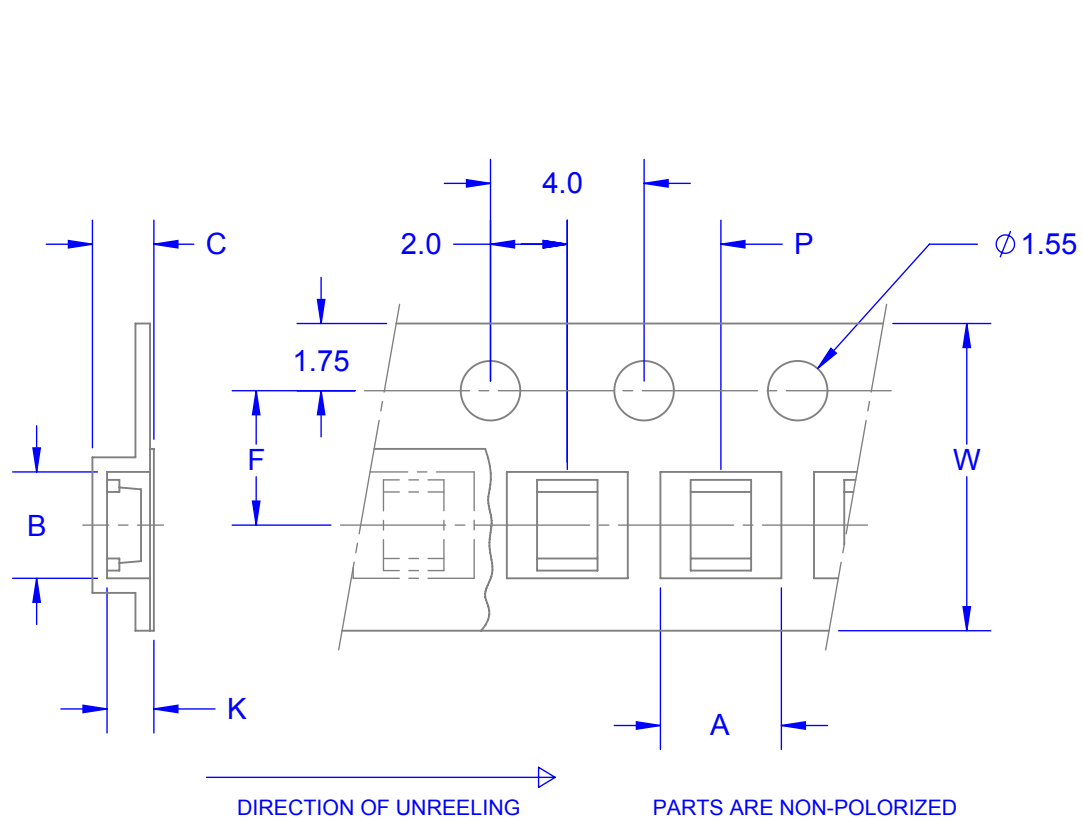
SCALE 20:1	SIZE A	DRAWING NO. 130324	REV A
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DO NOT SCALE DRAWING

SHEET 5 OF 7

# TAPE SPECIFICATION SURFACE MOUNT DEVICE

## 7 INCH PACKAGE REEL

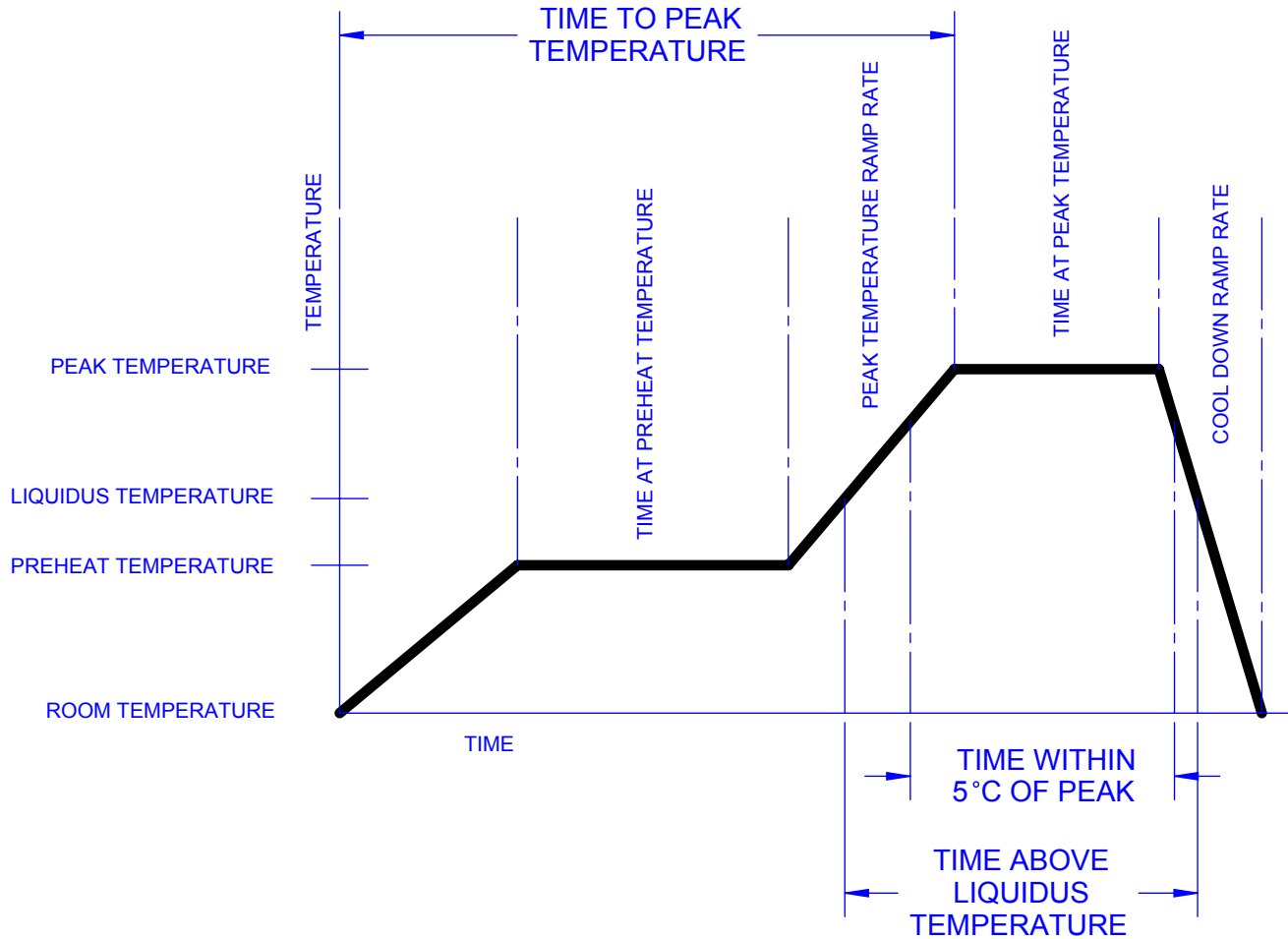


ALL DIMENSIONS IN mm.

TAPE AND REEL DIMENSIONS		E7A 7-INCH							
	SYMBOL	SOD123FW	SOD123F	SOD123G	SMAF	SOD323	SOD523	SOD723	SOD923
TAPE WIDTH	W	8	8	8	12	8	8	8	8
PITCH OF COMPONENTS	P	4	4	4	4	4	4	2	2
POCKET WIDTH	A	1.9	1.9	1.85	2.8	1.46	0.9	0.7	0.66
POCKET LENGTH	B	3.9	3.94	3.94	5.0	2.90	1.94	1.7	1.12
POCKET DEPTH	K	1.68	1.6	1.57	1.90	1.25	0.73	0.68	0.50
CARRIER THICKNESS	C	1.91	1.8	1.8	2.1	1.5	0.95	0.90	0.70
REEL DIAMETER	D1	178	178	178	178	178	178	178	178
HUB DIAMETER	D2	50	50	50	50	50	50	50	50
PUNCH HOLE POSITION	F	3.5	3.5	3.5	5.5	3.5	3.5	3.5	3.5
MAX REEL WIDTH	W1	11.4	11.4	11.4	18	11.4	11.4	11.4	11.4
REF (JUMPER)	-	FM400S-M			FM400S				
REF (SPACER)	-	FM400N-M			FM400N				
QUANTITY (PSC)	-	2500	3000	3000	2000	3000	3000	3000	300

<b>TopLine®</b>			
TITLE SOD123F JUMPER AND SPACER			
SCALE 1:5	SIZE A	DRAWING NO. 130324	REV
DO NOT SCALE DRAWING			SHEET 6 OF 7

# LEAD FREE REFLOW PROFILE OF SMD PACKAGE



DESCRIPTION	REQUIREMENT
AVERAGE PREHEAT RAMP RATE	3°C /SECOND MAXIMUM
PREHEAT TEMPERATURE	150°C MINIMUM, 200°C MAXIMUM
PREHEAT TIME	60 TO 120 SECONDS
RAMP TO PEAK	3°C /SECOND MAXIMUM
TIME OVER LIQUIDUS (217°C)	60 TO 260 SECONDS
PEAK TEMPERATURE	260°C +0/-5°C
TIME WITHING 5°C OF PEAK	10 TO 30 SECONDS
RAMP - COOL DOWN	6°C /SECONDS MAXIMUM
TIME 25°C TO PEAK	6 MINUTES MAXIMUM

**TopLine®**

TITLE		SOD123F JUMPER AND SPACER	
SCALE	SIZE	DRAWING NO.	REV
20:1	A	130324	A
DO NOT SCALE DRAWING			SHEET 7 OF 7