WILLAS

RoHS COMPLIANT

FM4001-M THRU FM4007-M

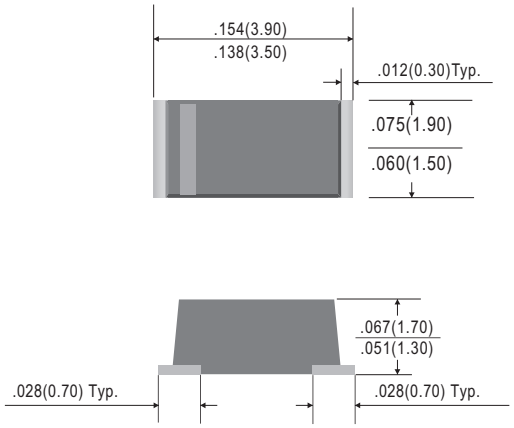
1.0A Surface Mount General Purpose Rectifiers -50V- 1000V

SOD-123-L PACKAGE

Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Tiny plastic SMD package.
- High current capability.
- High surge capability.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- **Pb-Free package is available**
  RoHS product for packing code suffix "G"
  Halogen free product for packing code suffix "H"

SOD-123-L



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123-L / MINI SMA
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.018 gram

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			30	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_J = 125°C				50	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		60		°C/W
	Junction to case	$R_{\theta JC}$		30		
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		pF
Rating for fusing (t < 8.3 ms) Note1		I^2t			3.7	A^2s
Storage temperature		T_{STG}	-65		+175	°C

Note 1: For device using on bridge rectifier appliaction

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	Operating temperature T_J, (°C)
FM4001-M	50	35	50	1.10	-55 to +150
FM4002-M	100	70	100		
FM4003-M	200	140	200		
FM4004-M	400	280	400		
FM4005-M	600	420	600		
FM4006-M	800	560	800		
FM4007-M	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=1.0A

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

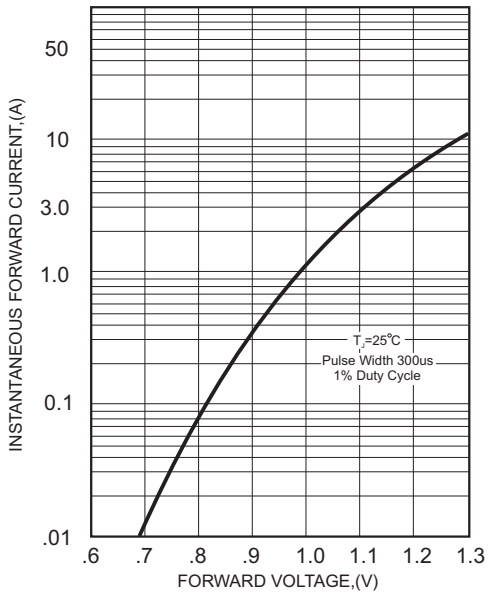


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

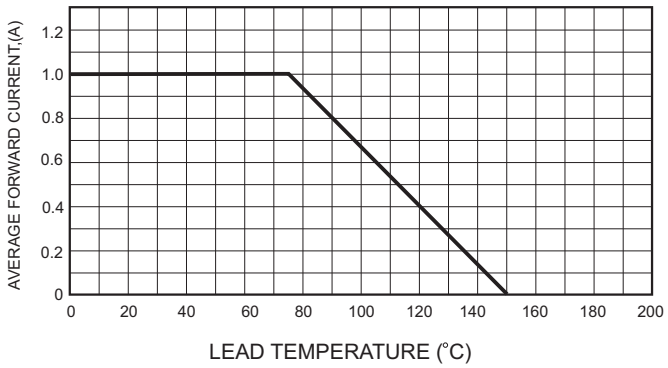


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

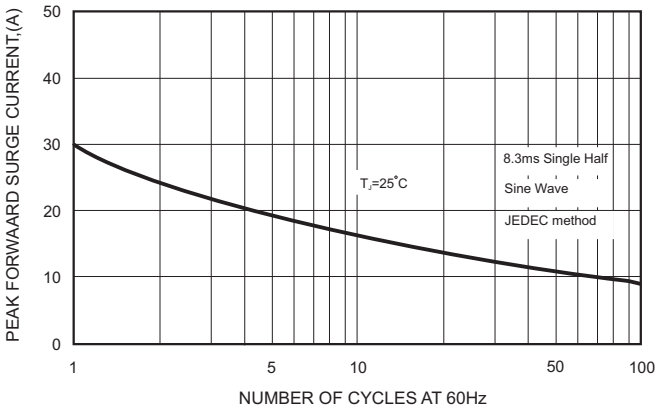


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

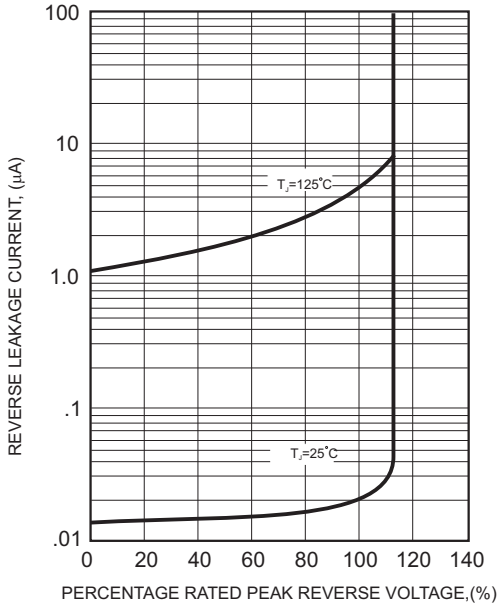
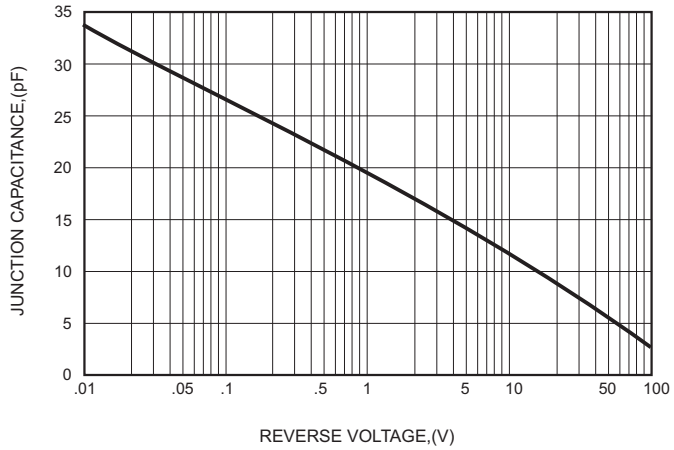


FIG.5-TYPICAL JUNCTION CAPACITANCE



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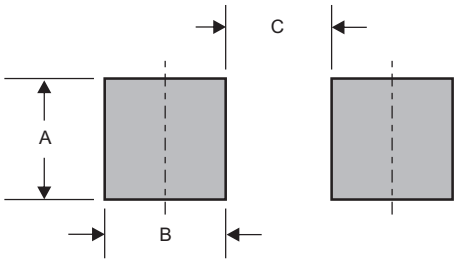
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
FM4001-M	A1
FM4002-M	A2
FM4003-M	A3
FM4004-M	A4
FM4005-M	A5
FM4006-M	A6
FM4007-M	A7

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123-L	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123-L	7"	2,500	4.0	25,000	183*183*123	178	382*262*387	200,000	9.5

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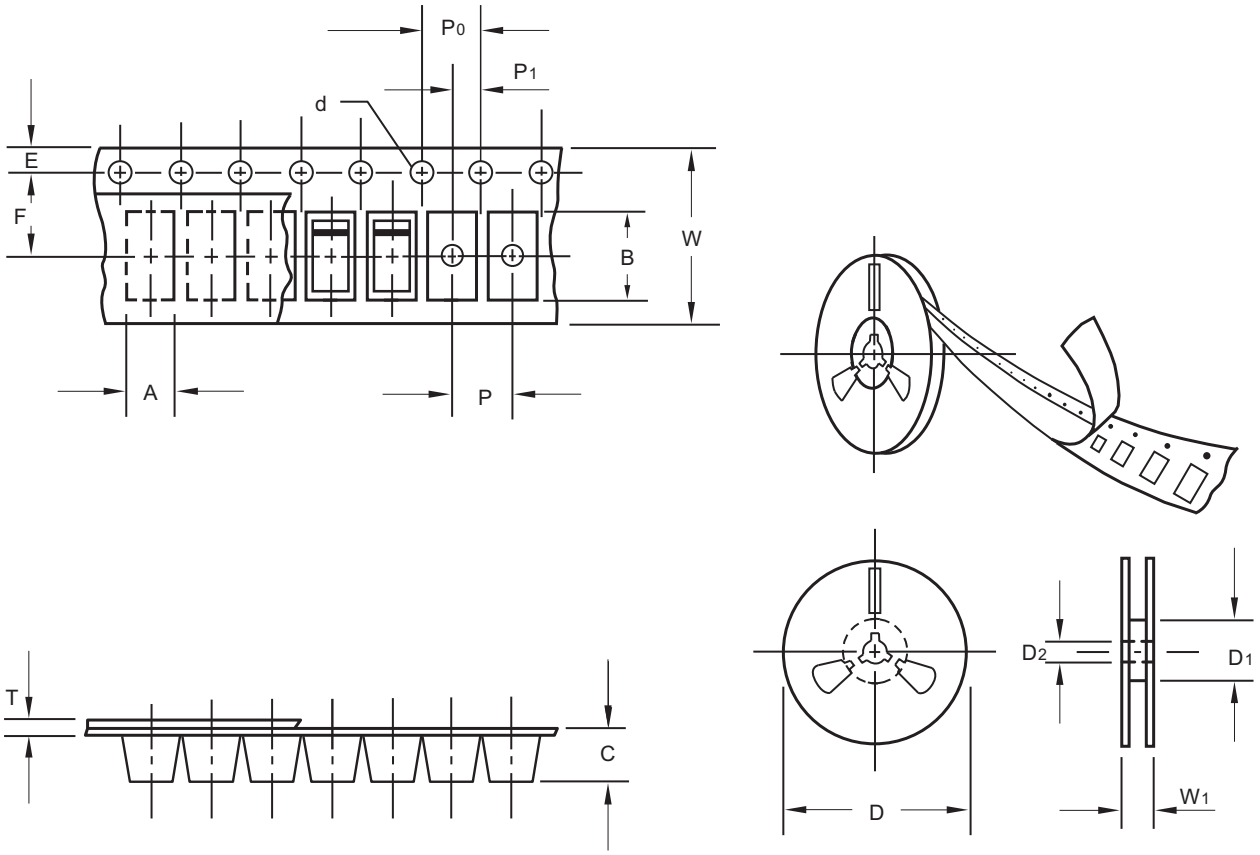
Packing information



unit:mm

Item	Symbol	Tolerance	SOD-123-L
Carrier width	A	0.1	1.90
Carrier length	B	0.1	3.90
Carrier depth	C	0.1	1.68
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D_1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W_1	1.0	11.40

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.