



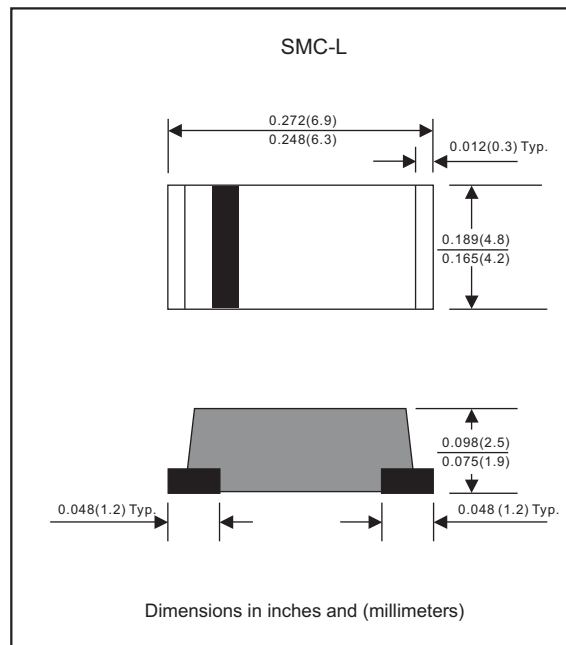
Features

- 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.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Moisture Sensivity Level 1
- **Pb-Free package is available**
RoHS product for packing code suffix "G"
Halogen free product for packing code suffix "H"

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AB / SMC-L
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.19 gram

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			100	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} \quad T_J = 125^{\circ}\text{C}$				300	
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		60		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	t _{rr} ^{*5} (ns)	Operating temperature T _J , (°C)
FFM301L	50	35	50	1.30	150	-55 to +150
FFM302L	100	70	100			
FFM303L	200	140	200			
FFM304L	400	280	400		250	
FFM305L	600	420	600			
FFM306L	800	560	800			
FFM307L	1000	700	1000		500	

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=3.0\text{A}$

*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

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)
SMC-L	13"	3,000	8.0	6,000	337*337*37	330	350*330*360	48,000	17.2



Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

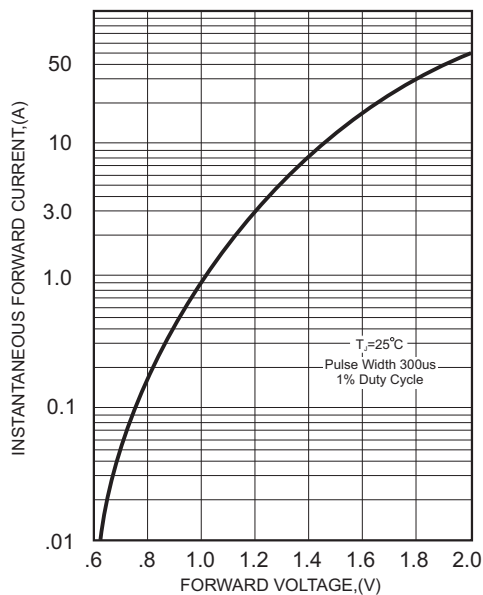


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

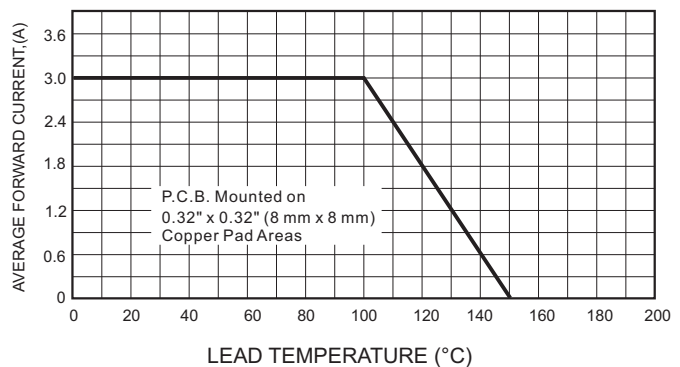


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

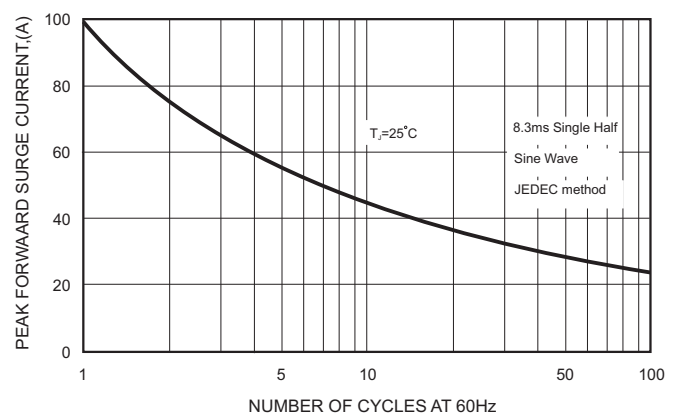
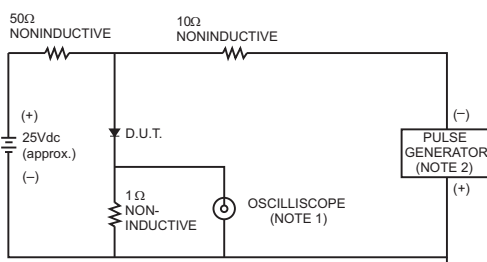


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

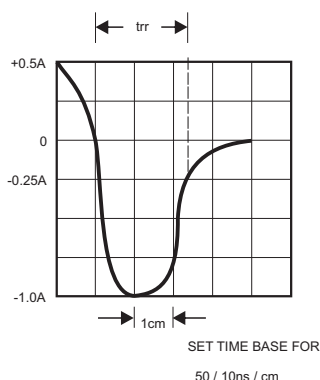
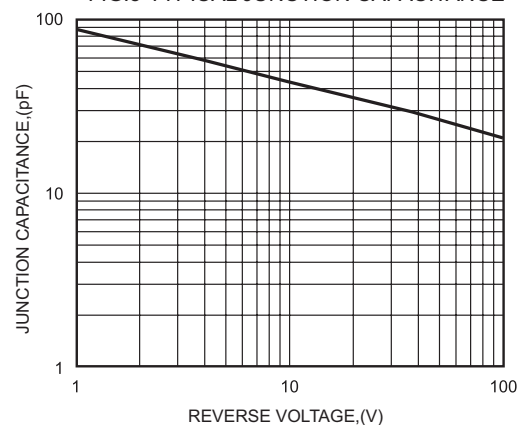


FIG.5-TYPICAL JUNCTION CAPACITANCE





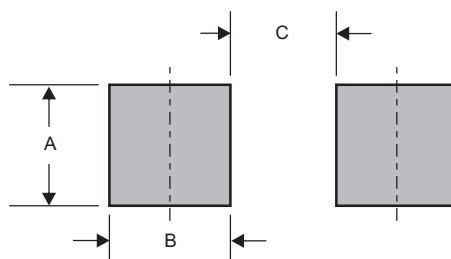
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
FFM301L	F31
FFM302L	F32
FFM303L	F33
FFM304L	F34
FFM305L	F35
FFM306L	F36
FFM307L	F37

Suggested solder pad layout

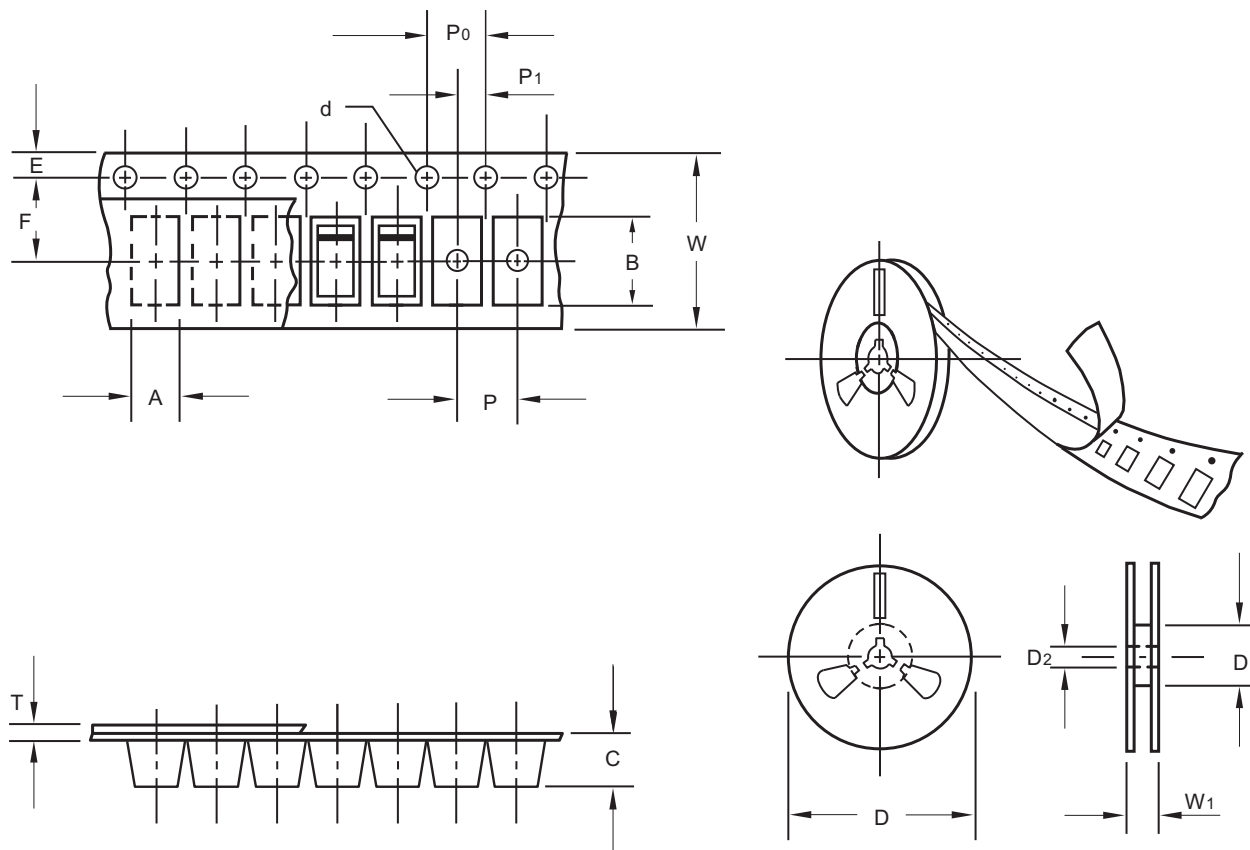


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMC-L	0.189 (4.80)	0.063 (1.60)	0.158 (4.00)



Packing information



unit:mm

Item	Symbol	Tolerance	SMC
Carrier width	A	0.1	5.10
Carrier length	B	0.1	7.20
Carrier depth	C	0.1	2.50
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	62.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	12.00
Reel width	W1	1.0	18.00

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.