



Features

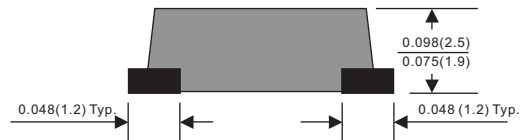
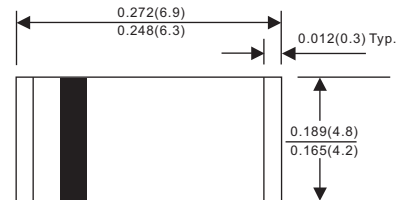
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- **Moisture Sensitivity Level 1**

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, 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

SMC-L



Dimensions in inches and (millimeters)

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.1		I _O			5.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)		I _{FSM}			150	A
Reverse current	FM520Š~ FM540L	V _R = V _{RRM} T _J = 25°C V _R = V _{RRM} T _J = 100°C	I _R			0.5 20	mA
	FM550L ~ FM5100L	V _R = V _{RRM} T _J = 25°C V _R = V _{RRM} T _J = 100°C				0.5 10	
Thermal resistance	Junction to case		R _{BJC}		16		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage		C _J		380		pF
Storage temperature			T _{STG}	-65		+175	°C

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	Operating temperature T _J , (°C)
FM520L	20	14	20	0.55	-55 to +125
FM530L	30	21	30		
FM540L	40	28	40		
FM550L	50	35	50	0.70	-55 to +150
FM560L	60	42	60		
FM580L	80	56	80	0.85	
FM5100L	100	70	100		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=5.0A



Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

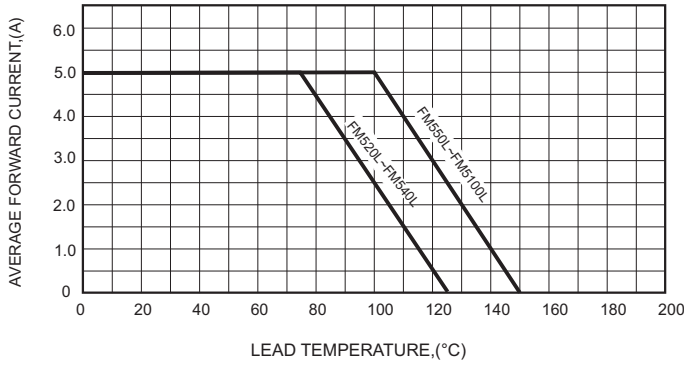


FIG.2-TYPICAL FORWARD CHARACTERISTICS

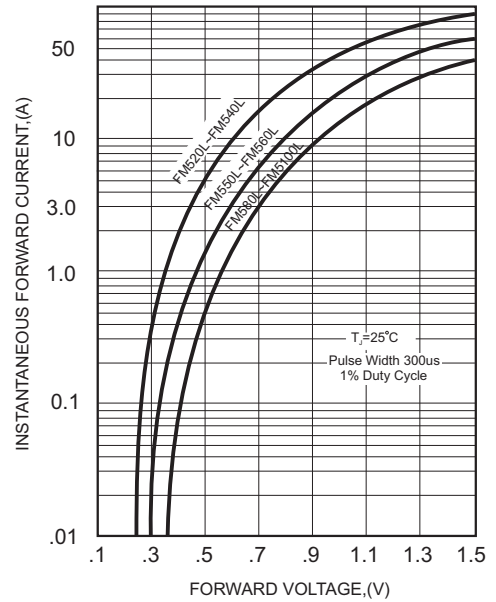


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

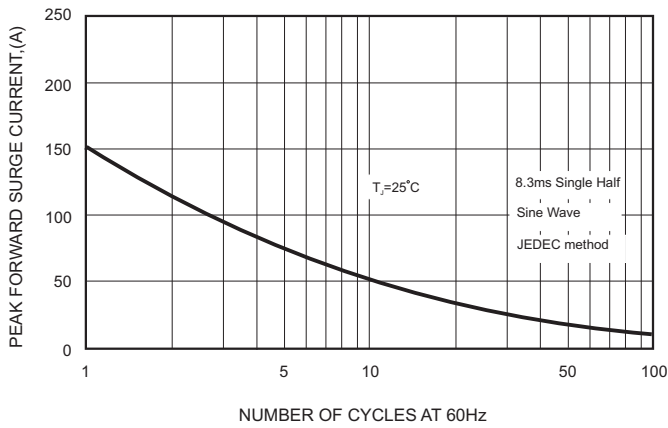


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

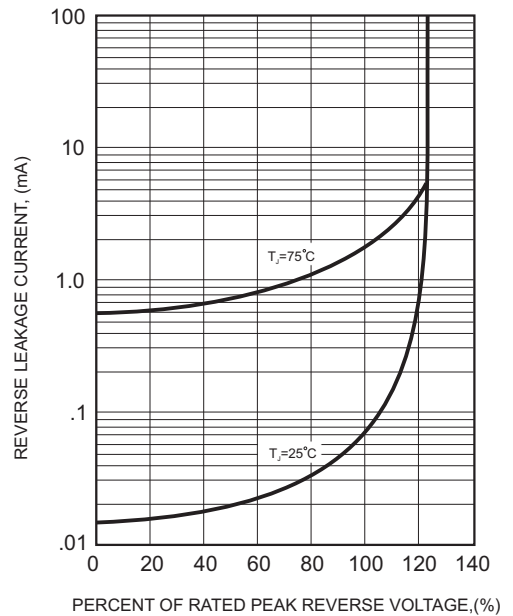
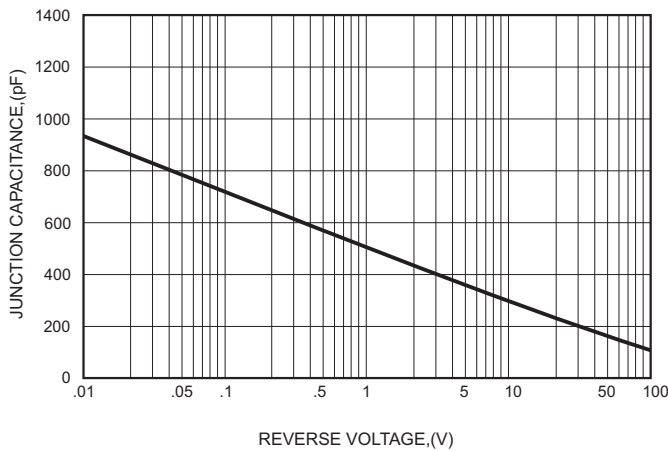




FIG.4-TYPICAL JUNCTION CAPACITANCE



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

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

Marking

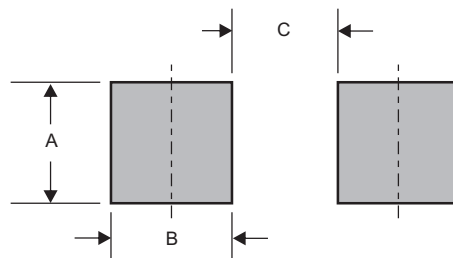
Type number	Marking code
FM520L	SS52
FM530L	SS53
FM540L	SS54
FM550L	SS55
FM560L	SS56
FM580L	SS58
FM5100L	S510

Pb-Free package is available

RoHS product for packing code suffix "G"

Halogen free product for packing code suffix "H"

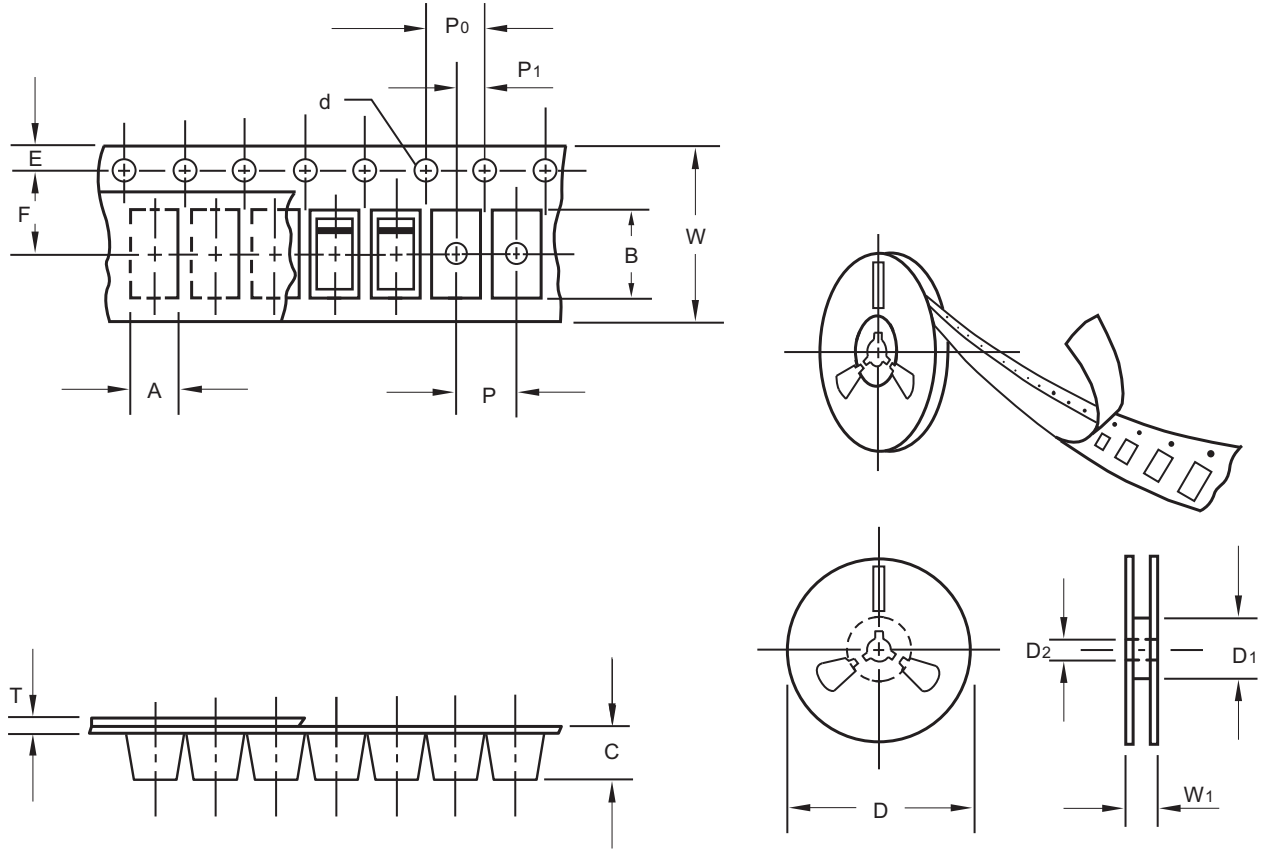
Suggested solder pad layout



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-L
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.