



### 5.0A SCHOTTKY BARRIER RECTIFIERS -40V- 200V SMB-L PACKAGE

#### Features

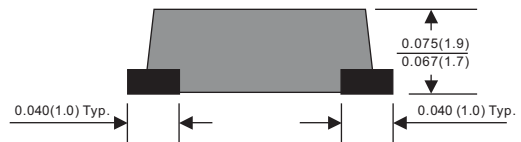
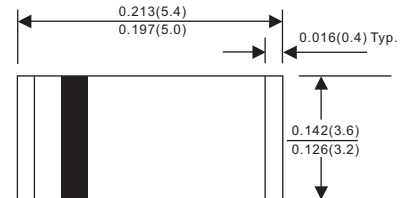
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- 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, SMB-L
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.09 gram

#### Package outline

SMB-L



Dimensions in inches and (millimeters)

#### Maximum ratings and Electrical Characteristics (AT T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I <sub>O</sub>			5.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I <sub>FSM</sub>			150	A
Reverse current	FM5I 0BŠ	I <sub>R</sub>			0.5	mA
	FM560BL ~ FM5200BL				20	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C <sub>J</sub>		380		pF
Storage temperature		T <sub>STG</sub>	-65		+175	°C

SYMBOLS	V <sub>RRM</sub> *1 (V)	V <sub>RMS</sub> *2 (V)	V <sub>R</sub> *3 (V)	V <sub>F</sub> *4 (V)	Operating temperature T <sub>J</sub> , (°C)
FM540BL	40	28	40	0.55	-55 to +125
FM560BL	60	42	60	0.70	-55 to +150
FM5100BL	100	70	100	0.85	
FM5150BL	150	105	150	0.90	
FM5200BL	200	140	200	0.92	

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@I<sub>F</sub>=5.0A



### Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

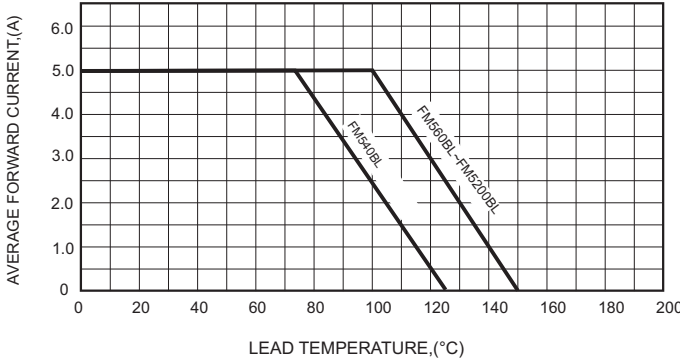


FIG.2-TYPICAL FORWARD CHARACTERISTICS

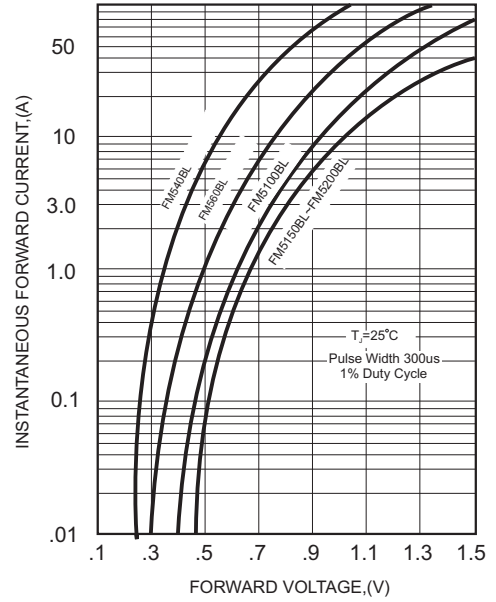


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

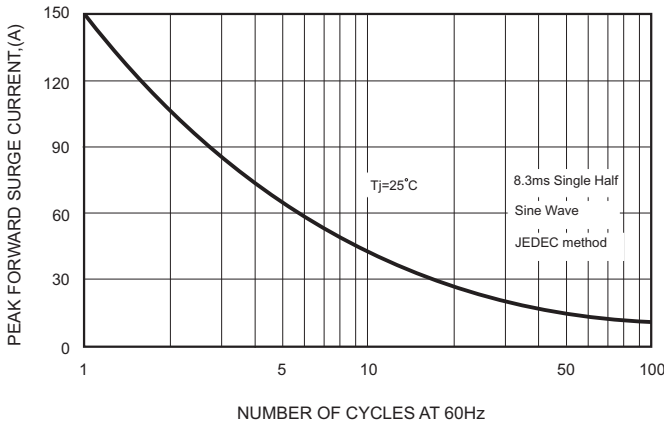


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

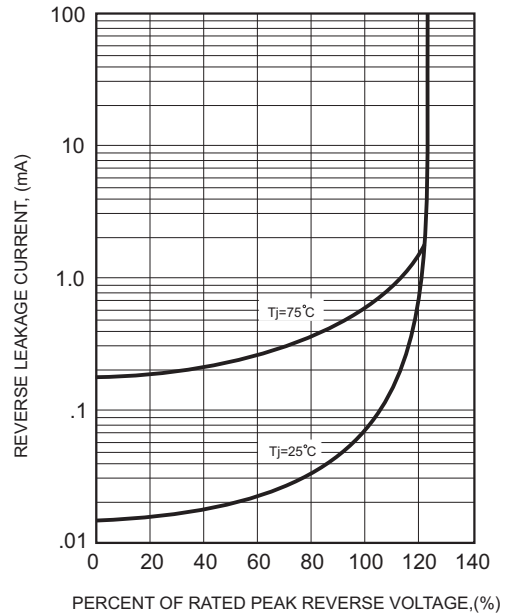
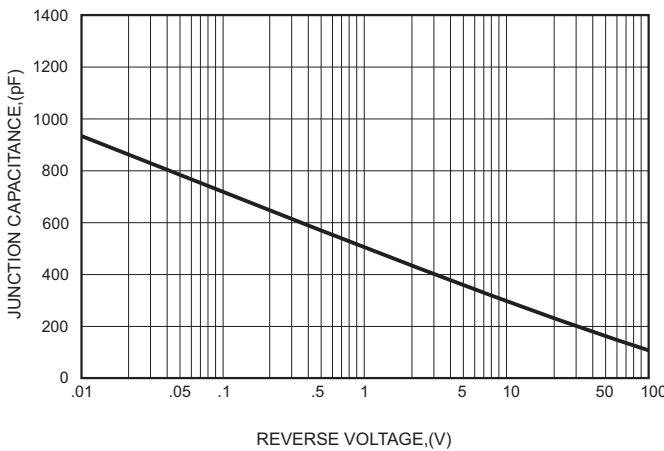


FIG.4-TYPICAL JUNCTION CAPACITANCE





#### 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)
SMB-L	13"	4,000	8.0	8,000	337*337*37	330	350*330*360	64,000	16.9

#### Marking

Type number	Marking code
FM540BL-TH	SS54
FM560BL-TH	SS56
FM5100BL-TH	S510
FM5150BL-TH	S515
FM5200BL-TH	S520

Note: BL: Package code, SMB-L

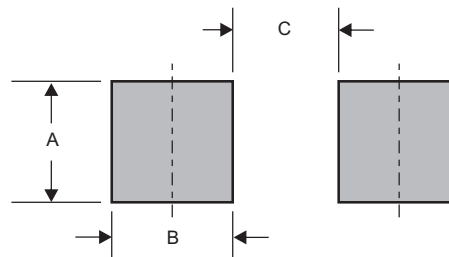
-T: Taping Reel

#### Pb-Free package is available

RoHS product for packing code suffix "G"

Halogen free product for packing code suffix "H"

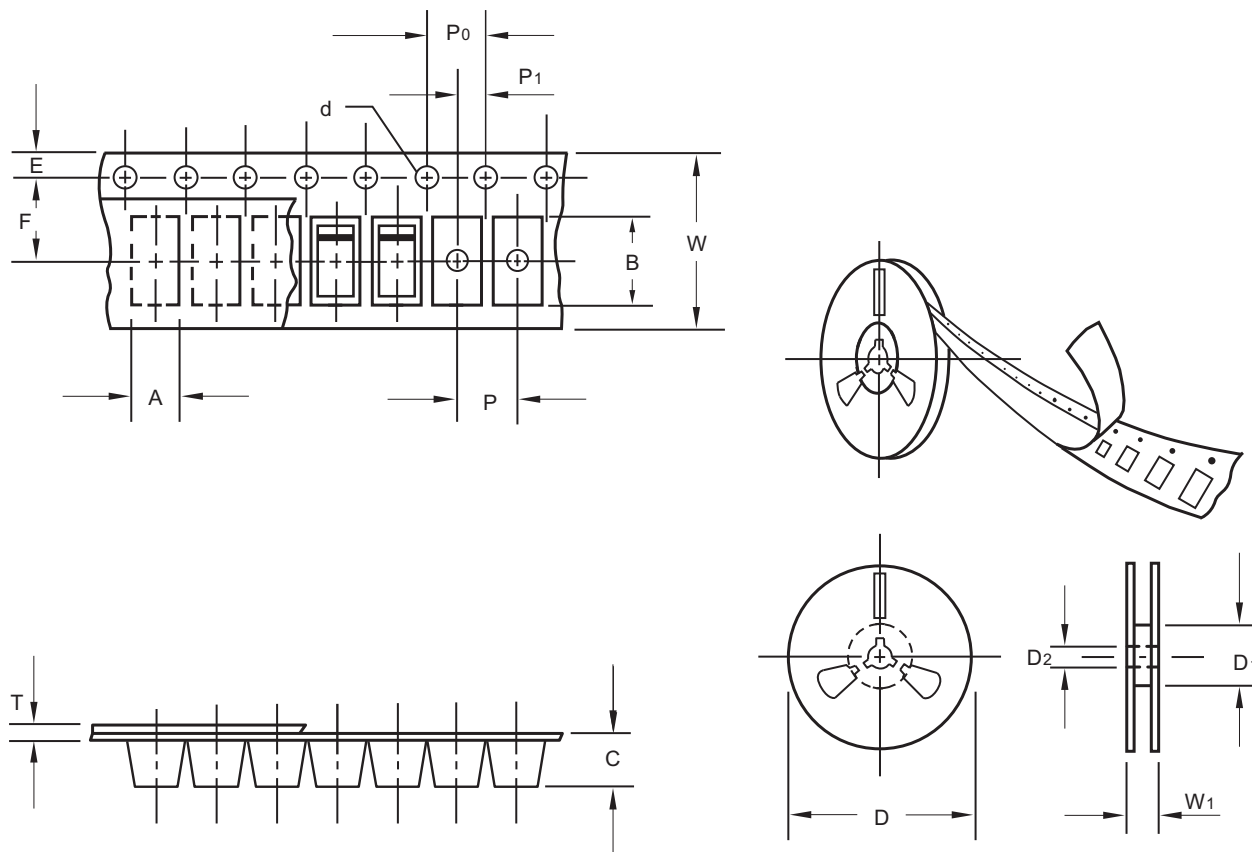
#### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMB-L	0.142 (3.60)	0.059 (1.50)	0.118 (3.00)

**Packing information**



unit:mm

Item	Symbol	Tolerance	SMB-L
Carrier width	A	0.1	3.81
Carrier length	B	0.1	5.74
Carrier depth	C	0.1	2.24
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.