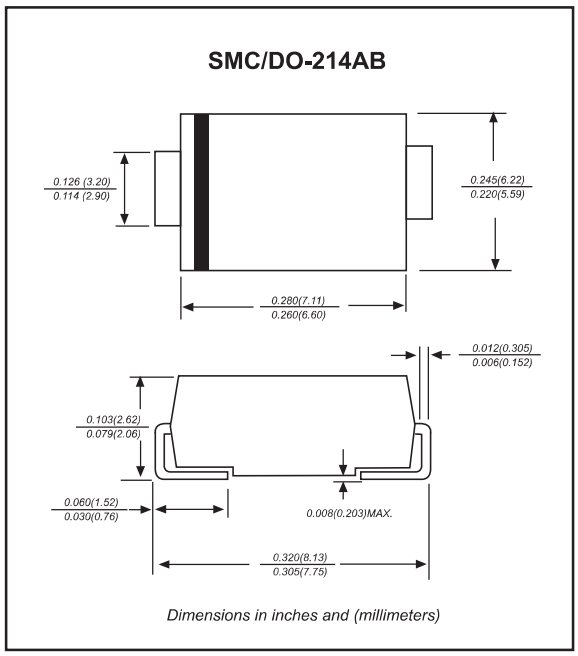
FSCDBC540-HF

5.0A Surface Mount Schottky Barrier Rectifiers

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds at terminals
- Compliant to RoHS 2.0
- Compliant to Halogen-free

Package outline



Mechanical data

- **Case**: JEDEC DO-214AB molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

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

PARAMETER	*SYMBOLS*	FSCDBC540-HF	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum average forward rectified current at T_L(see fig.1)	$I_{(AV)}$	5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150	A
Maximum instantaneous forward voltage at 5.0A	V_F	0.55	V
Maximum DC reverse current T_A=25℃	I_R	0.1	mA
at rated DC blocking voltage T_A=100℃		10.0	
Typical junction capacitance (NOTE 1)	C_J	600	pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	35	°C/W
Operating junction temperature range	T_J,	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2.P.C.B. mounted with 2.0x2.0″(5.0x5.0cm) copper pad areas

FSCDBC540-HF

5.0A Surface Mount Schottky Barrier Rectifiers

Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

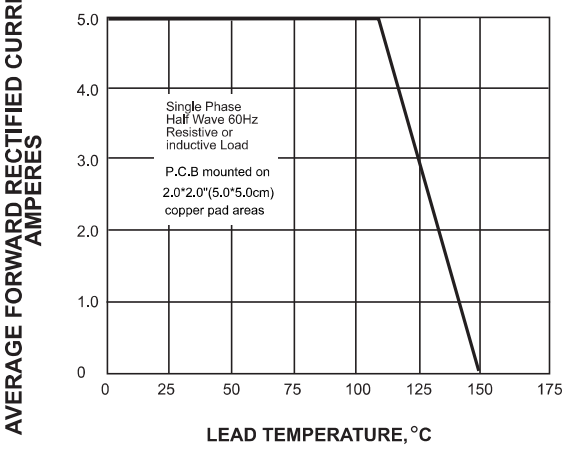


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

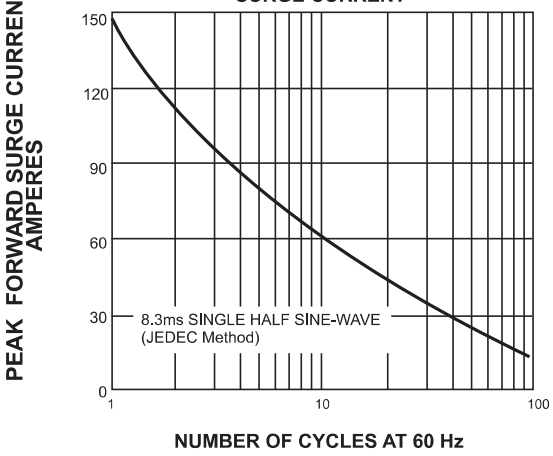


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

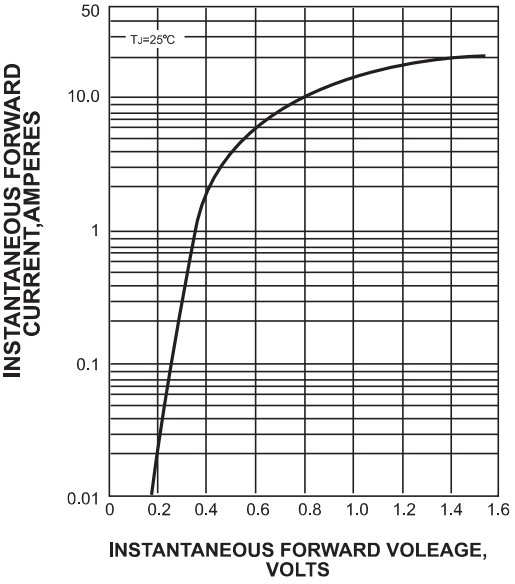


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

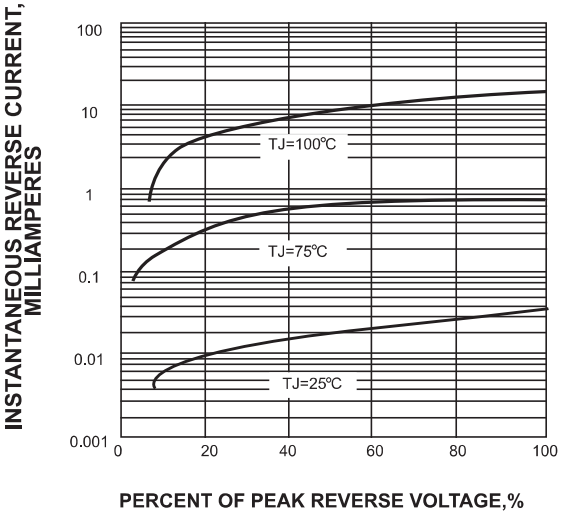


FIG. 5-TYPICAL JUNCTION CAPACITANCE

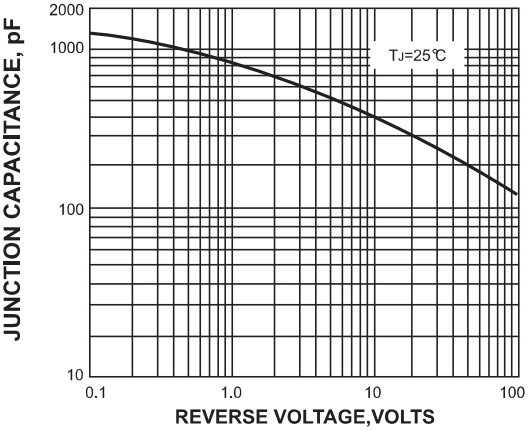
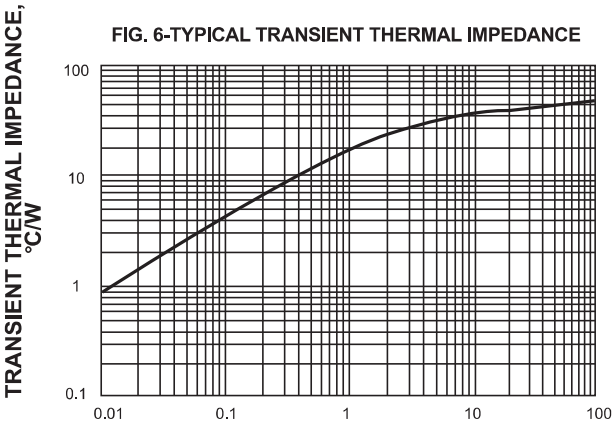


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



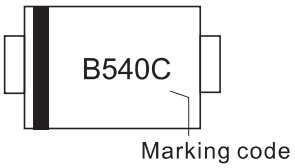
FSCDBC540-HF

5.0A Surface Mount Schottky Barrier Rectifiers

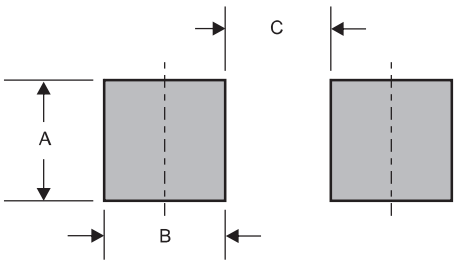
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
FSCDBC540-HF	B540C	

Suggested solder pad layout

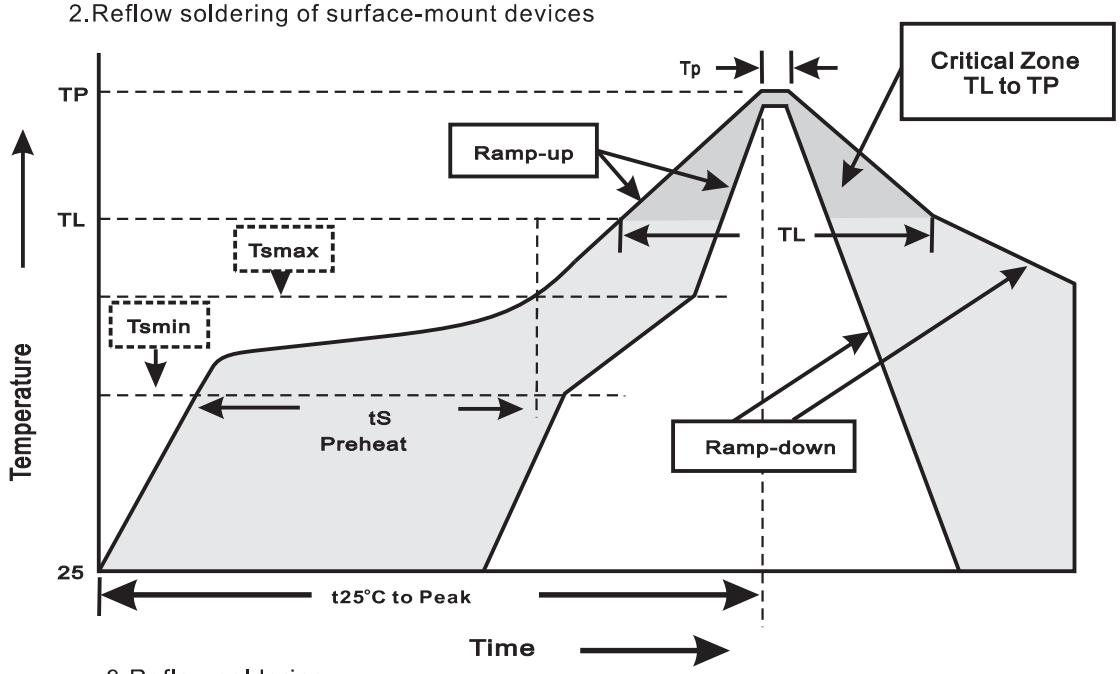


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMC	0.132 (3.30)	0.100 (2.50)	0.176(4.40)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes