

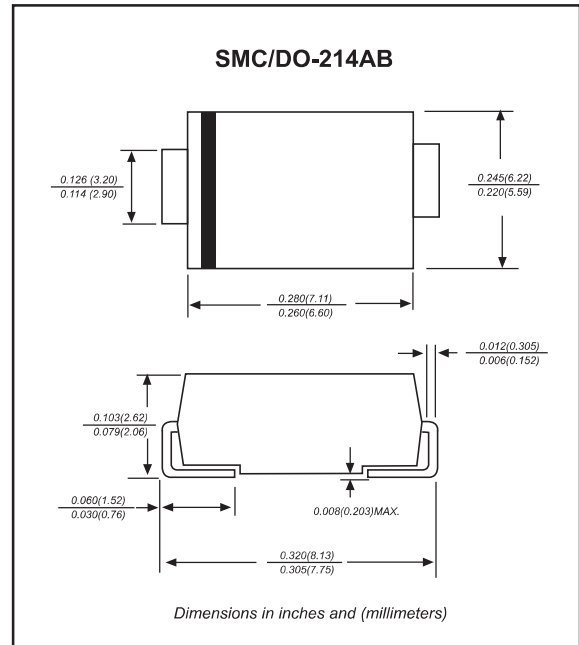
### Features

- ◆ 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°C/10 seconds at terminals
- ◆ Compliant to RoHS 2.0
- ◆ Compliant to Halogen-free

### 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

### Package outline

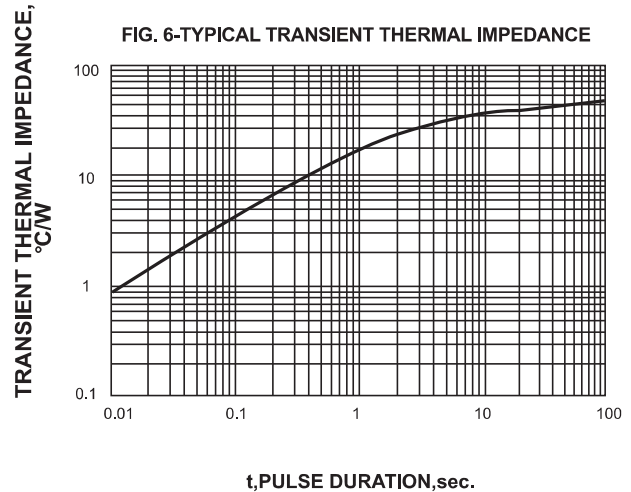
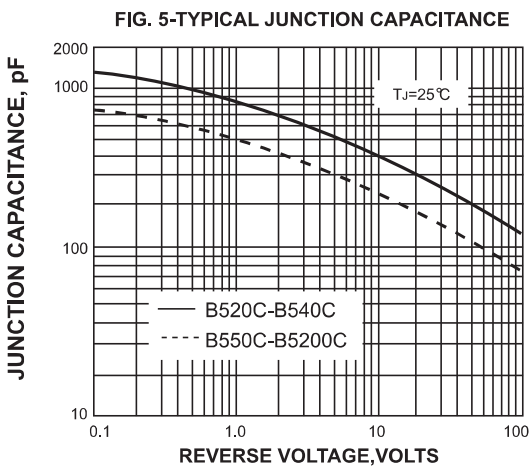
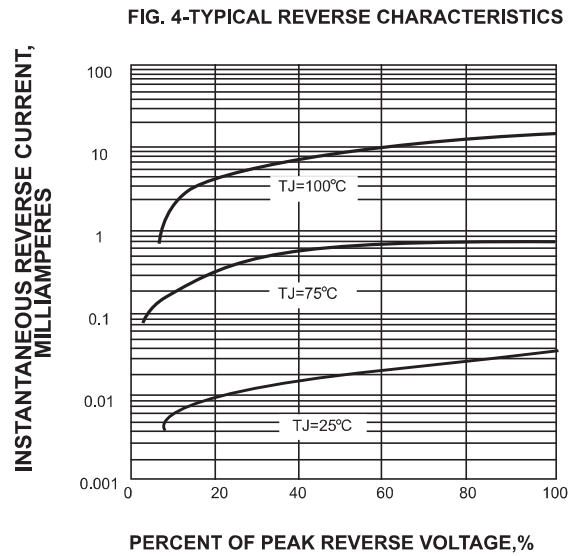
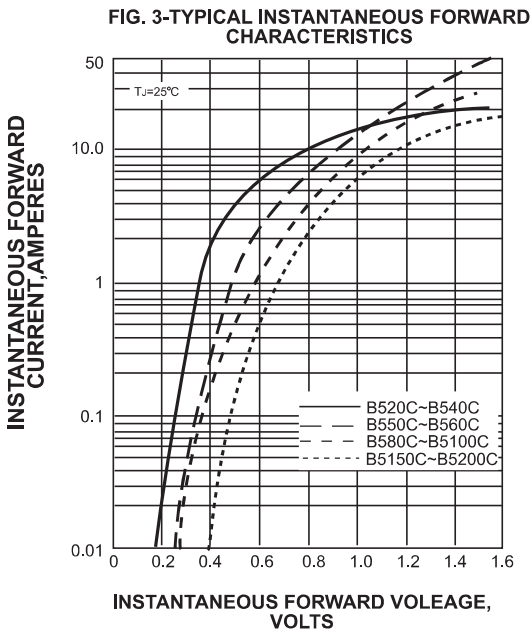
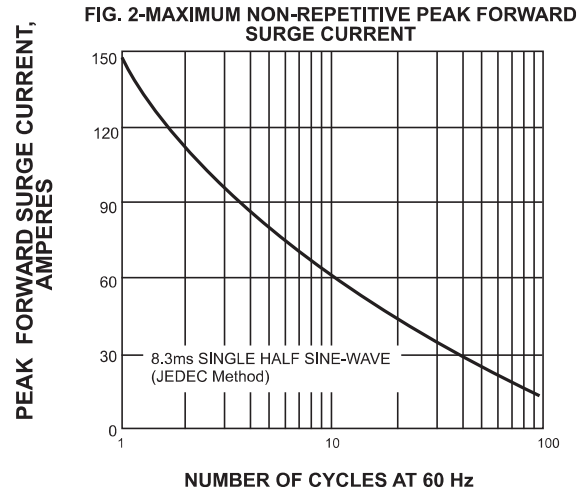
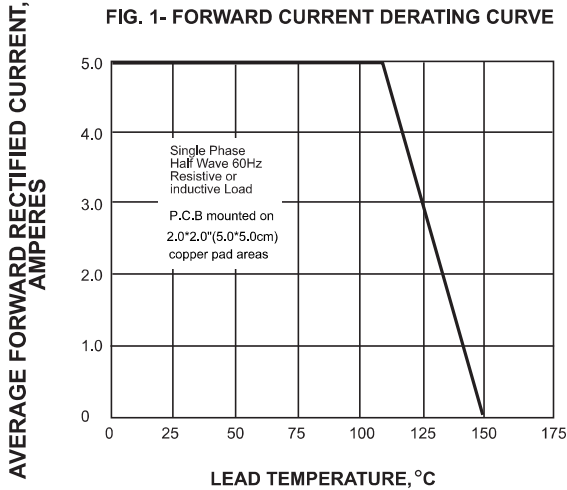


### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)



PARAMETER	SYMBOLS	B520C	B530C	B540C	B550C	B560C	B580C	B5100C	B5150C	B5200C	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current at $T_L$ (see fig.1)	$I_{AV}$	5.0									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		0.70		0.85		0.95			V
Maximum DC reverse current at rated DC blocking voltage	$I_R$	0.1			0.1			0.1			mA
		10.0			5.0			2.0			
Typical junction capacitance (NOTE 1)	$C_J$	600									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	35									$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150									$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150									$^\circ\text{C}$

**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

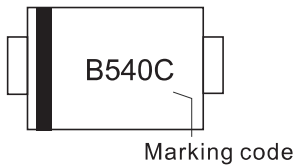
### Rating and characteristic curves



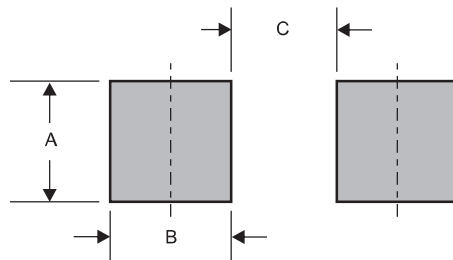
**Pinning information**

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

**Marking**

Type number	Marking code	Example
B520C B530C B540C	B540C	
B550C B560C	B560C	
B580C B5100C B5150C B5200C	B580C B5100C B5150C B5200C	

**Suggested solder pad layout**

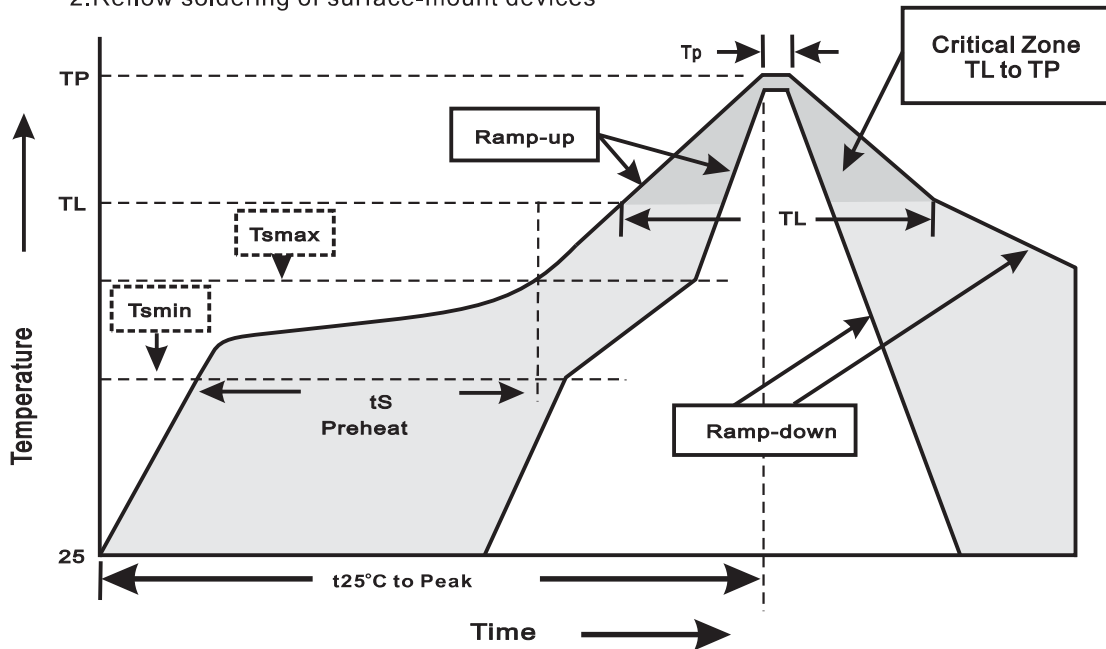


Dimensions in inches and (millimeters)

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(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes