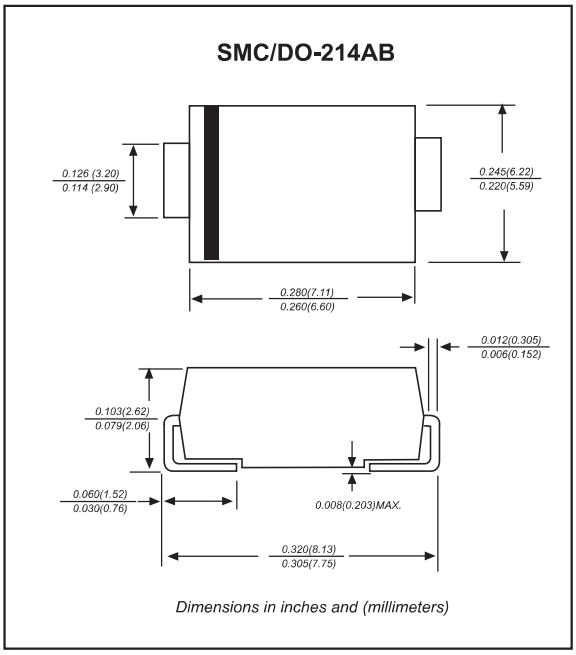
B320 THRU B360

Schottky Barrier Rectifiers

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds
- Compliant to RoHS Directive 2011/65/EU
- 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 (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

Characteristic	Symbol	B320	B330	B340	B350	B360	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	50	60	V
Average Rectified Output Current	I_O	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100					A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	20	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	90	°C/W
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	B320, B330, B340 B350, B360	V_F	— —	— —	0.50 0.70	V	I_F = 3.0A, T_A = +25°C
Leakage Current (Note 2)		I_R	— —	— —	0.1 20	mA	@ Rated V_R, T_A = +25°C @ Rated V_R, T_A = +100°C
Total Capacitance		C_T	—	—	200	pF	V_R = 4V, f = 1MHz

Notes: 1. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2 x 3mm copper pad.
2. Short duration pulse test used to minimize self-heating effect.

Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

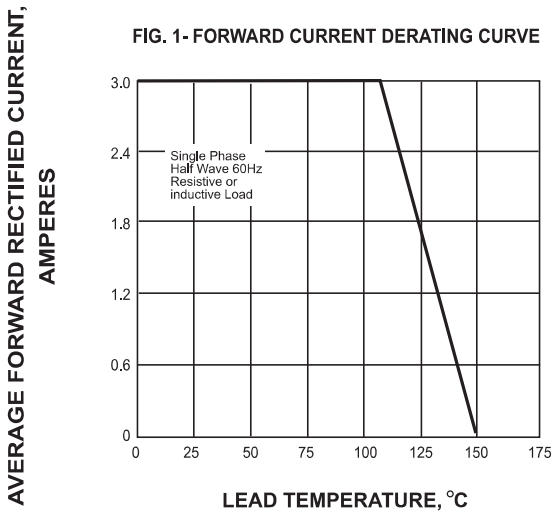


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

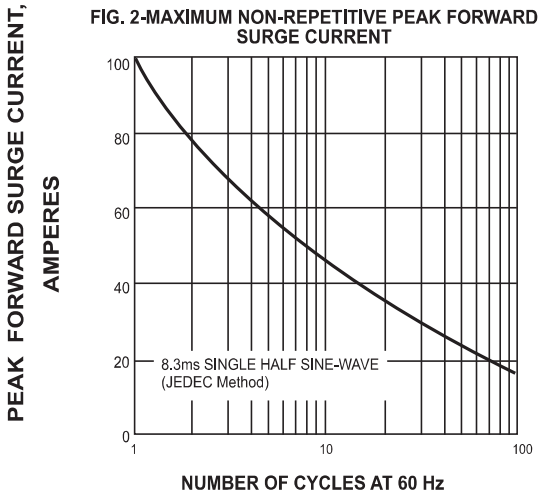


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

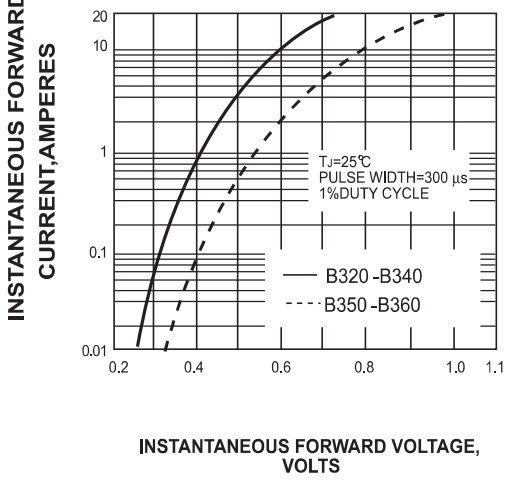


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

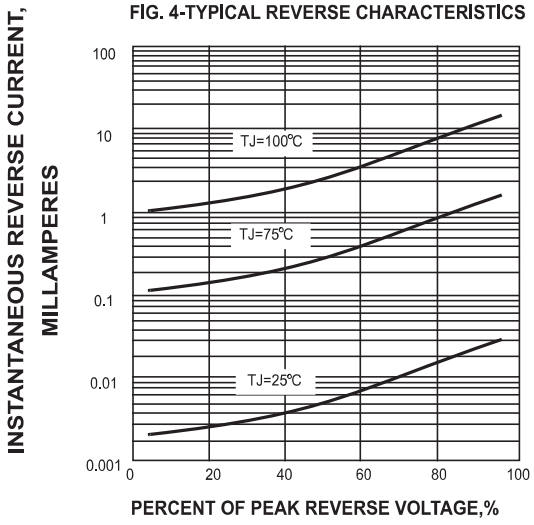
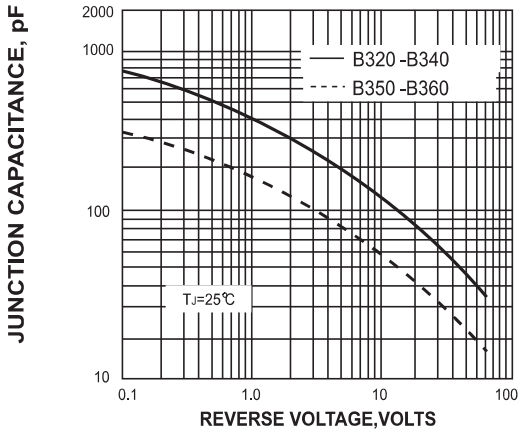


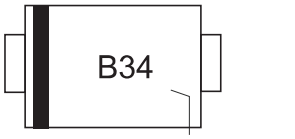
FIG. 5-TYPICAL JUNCTION CAPACITANCE



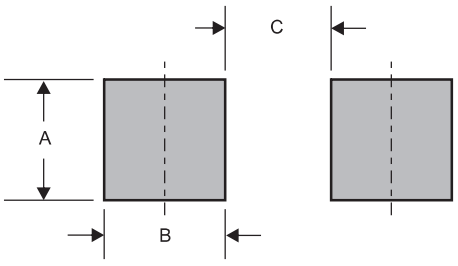
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
B320 B330 B340	B34	
B350 B360	B36	

Suggested solder pad layout

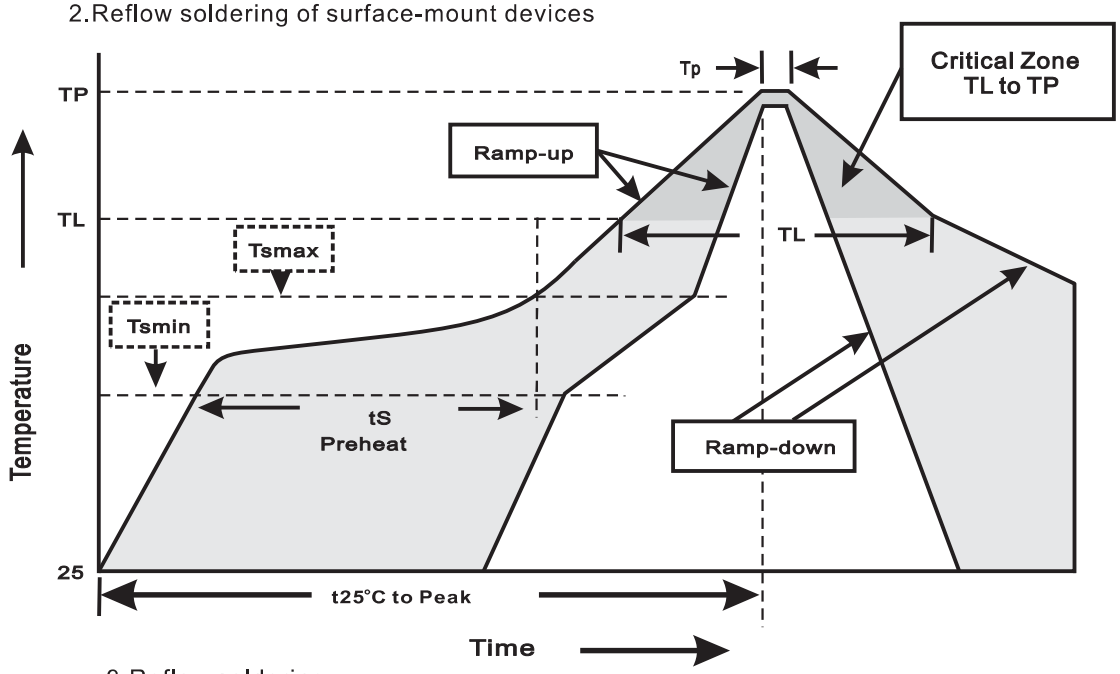


Dimensions in inches and (millimeters)

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