

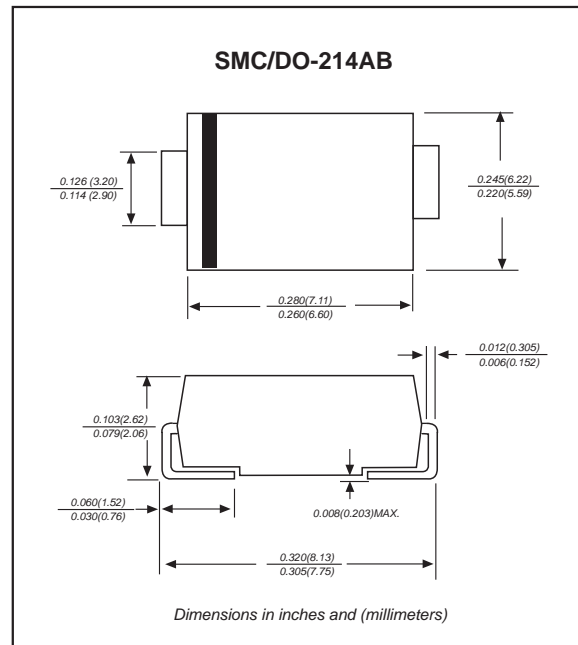
Features

- ▶ 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
- ▶ Suffix "-H" indicates Halogen-free part, ex. SS54C-H

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

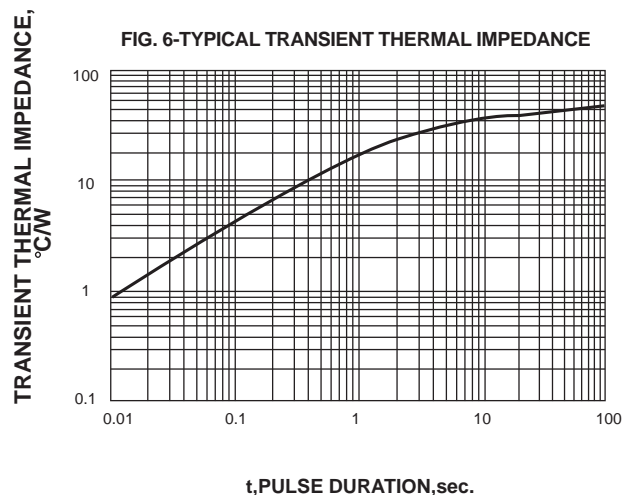
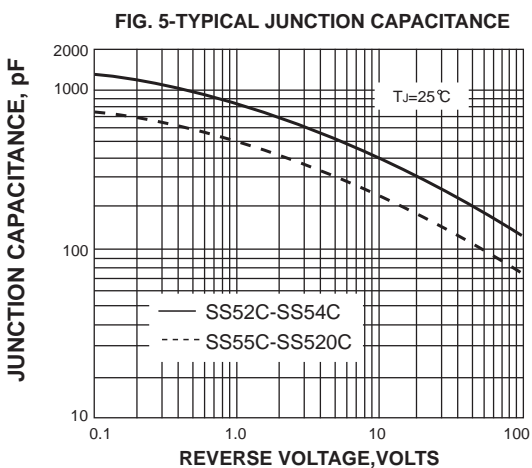
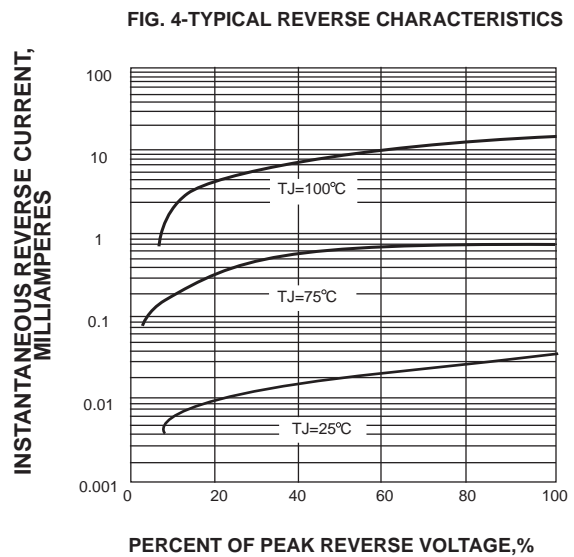
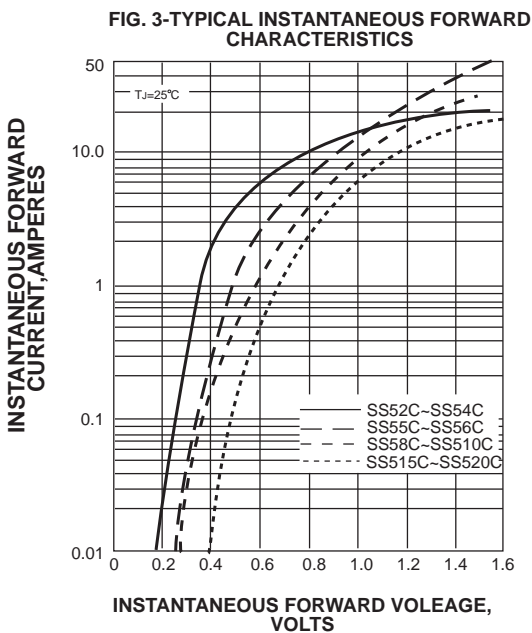
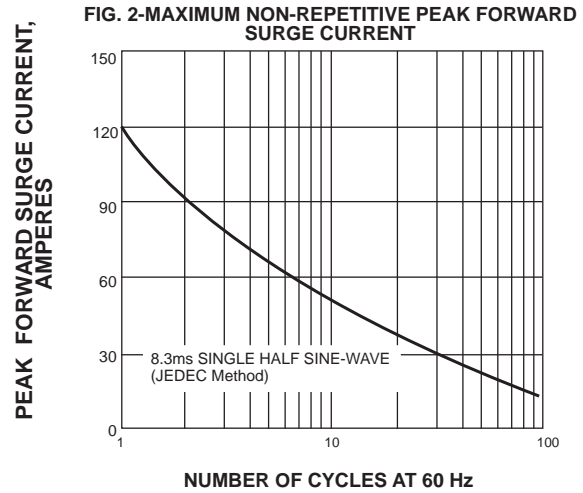
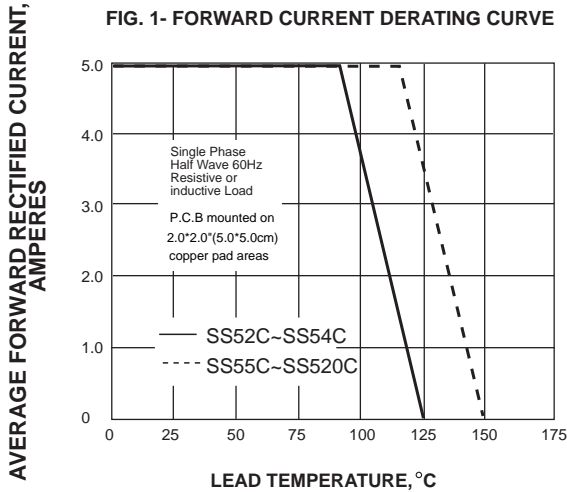


Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	SS52C	SS53C	SS54C	SS55C	SS56C	SS58C	SS510C	SS515C	SS520C	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}	120.0									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	0.5			10.0		5.0		2.0		mA
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 +125			-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
SS52C	SS52	
SS53C	SS53	
SS54C	SS54	
SS55C	SS55	
SS56C	SS56	
SS58C	SS58	
SS510C	SS510	
SS515C	SS515	
SS520C	SS520	

Suggested solder pad layout

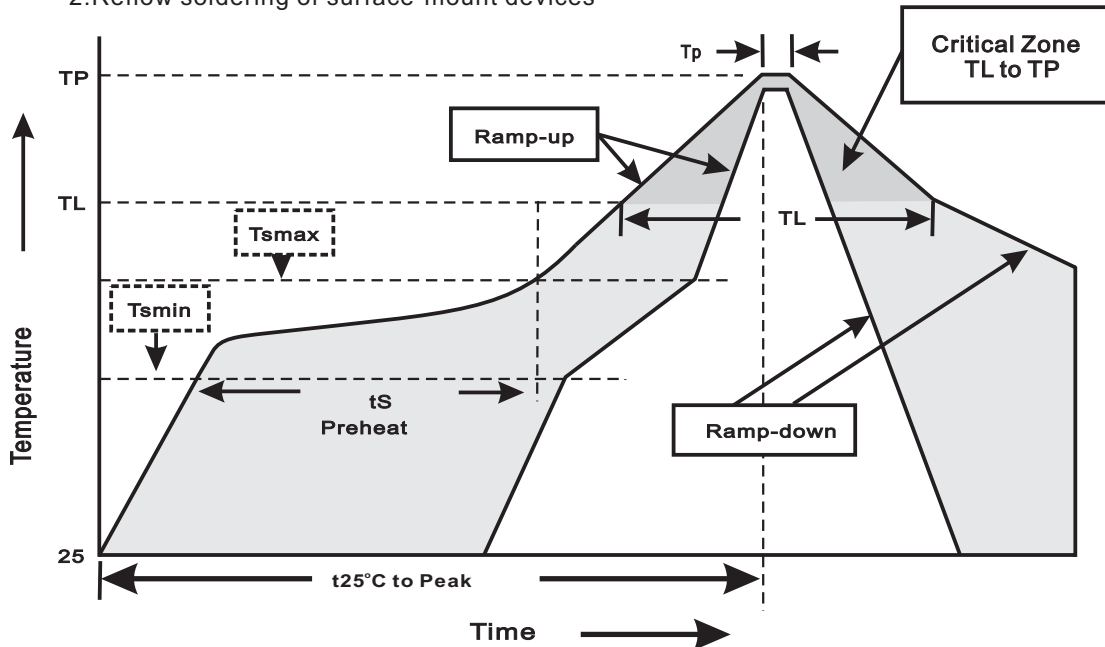


Dimensions in inches and (millimeters)

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(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} 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

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