



## SS52 THRU SS520

VOLTAGE RANGE

20 to 200 Volts

CURRENT

5.0 Ampere



## 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



DO-214AB (SMC)

## Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead :Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007 ounce, 0.21 gram

## Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOLS	SS 52	SS 54	SS 55	SS 56	SS 58	SS 510	SS 515	SS 520	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	50	60	80	100	150	200	Volts
Maximum RMS Voltage	$V_{RMS}$	14	28	35	42	56	70	105	140	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	40	50	60	80	100	150	200	Volts
Maximum Average Forward Rectified Current at $T_L$ see figure 1 $T_L = 100^\circ\text{C}$	$I_{(AV)}$	5.0								Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125								Amps
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	0.55	0.70		0.85		0.90		Volts	
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	0.1						0.01		mA
	$T_A = 125^\circ\text{C}$	20.0			10.0		2.0			
Typical Thermal Resistance <sup>(Note 1)</sup>	$R_{\theta JA}$	46								$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	12								
Diode junction capacitance <sup>(Note 2)</sup>	$C_j$	300	200							pF
Operating Junction Temperature	$T_J$	-55 to +150						-65 to +175		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150								$^\circ\text{C}$

Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on PCB. with 0.3×0.3"(8.0 × 8.0mm)copper pad areas.
2. f=1MHz and applied 4V DC reverse voltage.



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Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG.1-FORWARD CURRENT DERATING CURVE

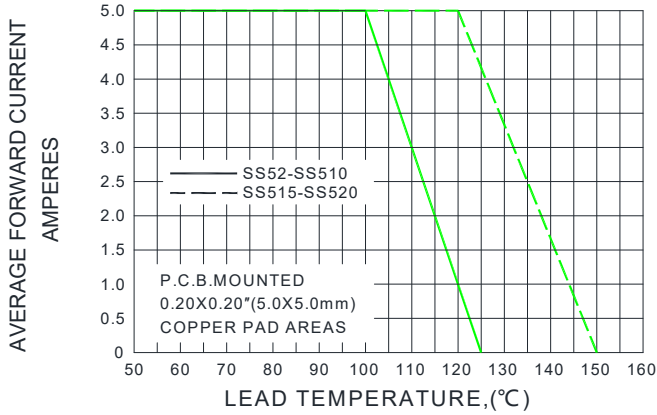


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

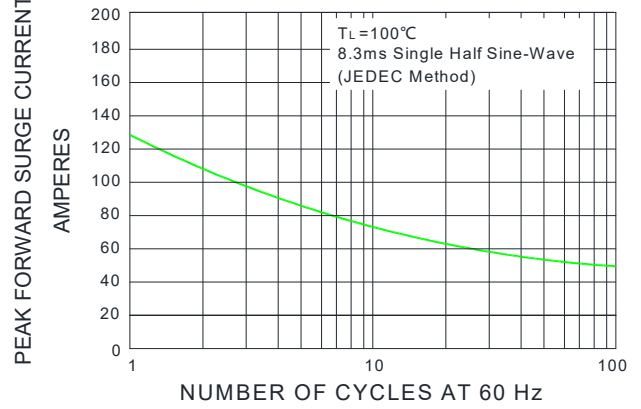


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

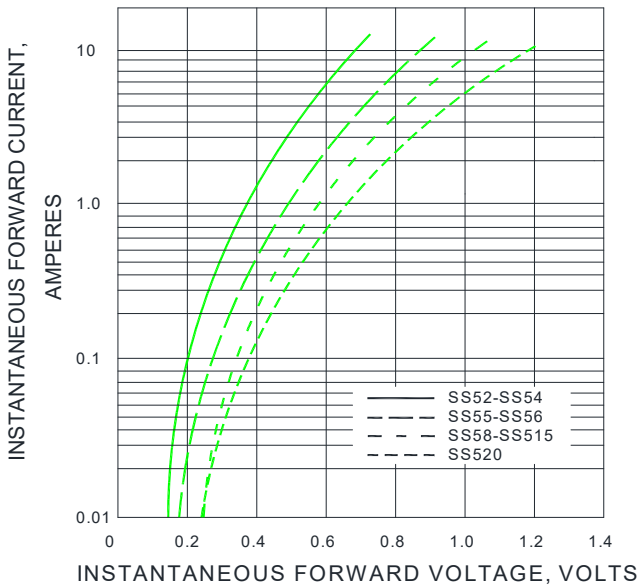


FIG.4-TYPICAL REVERSE CHARACTERISTICS

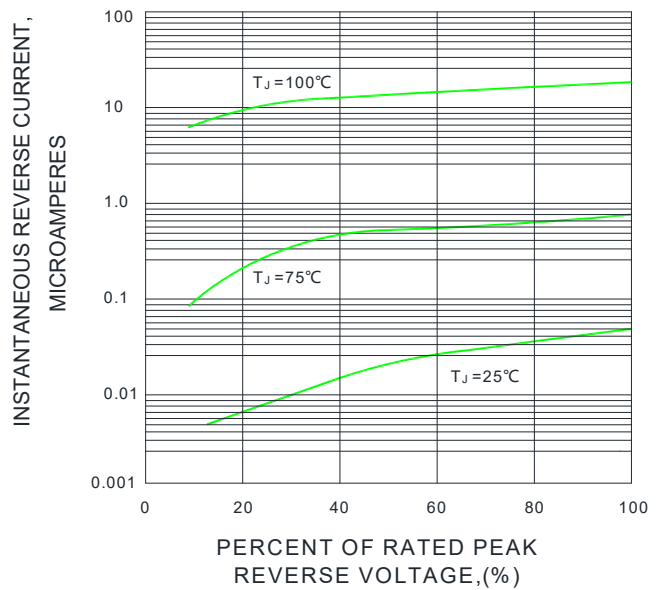
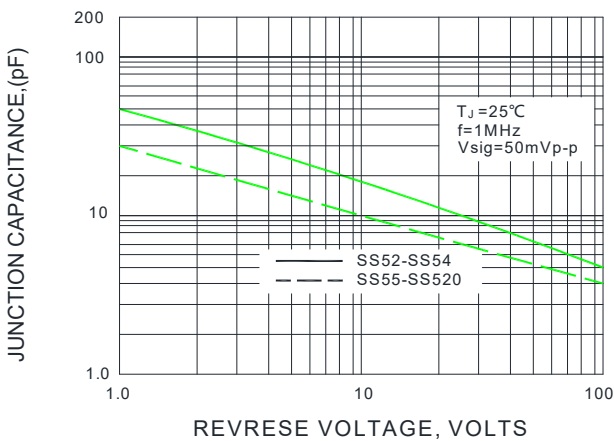


FIG.5-TYPICAL JUNCTION CAPACITANCE

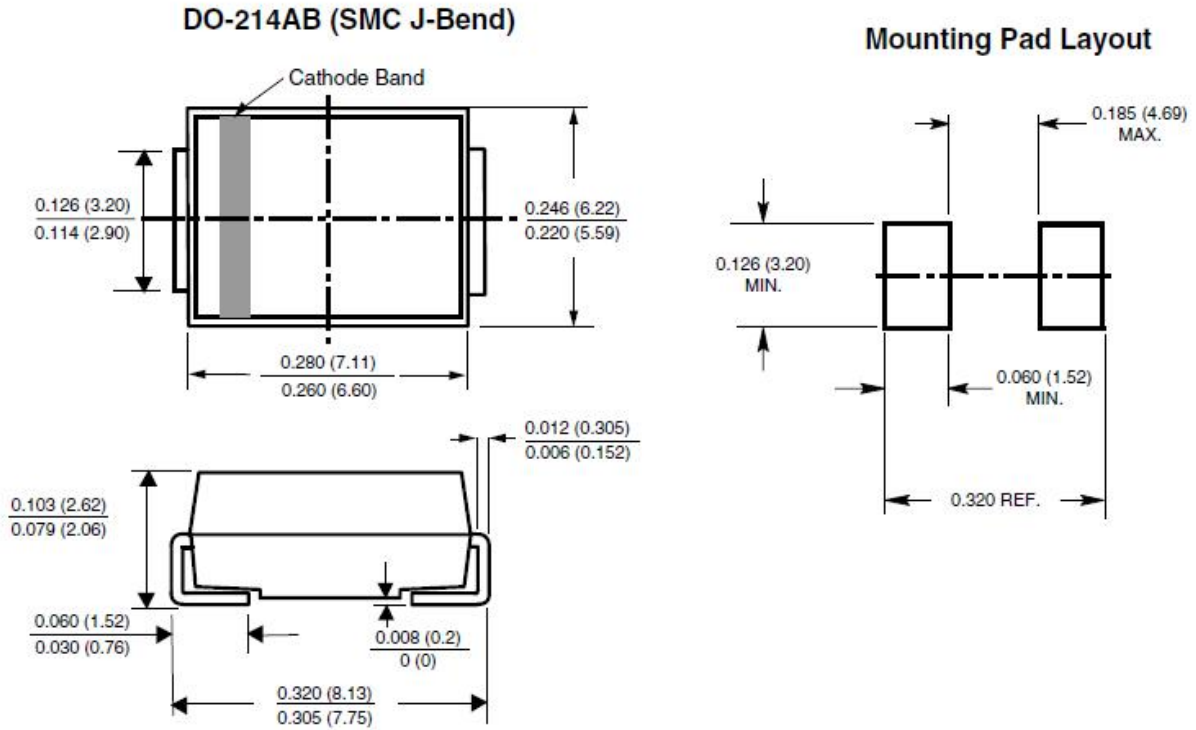




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Package Outline Dimensions in inches (millimeters)

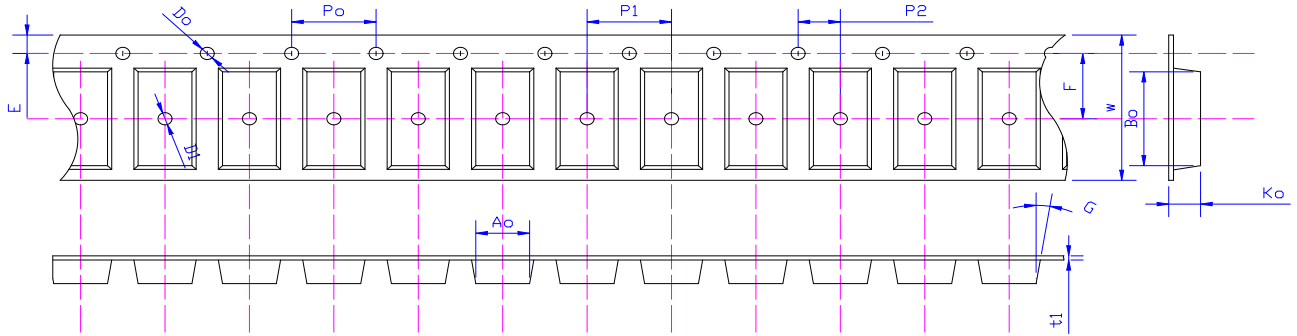




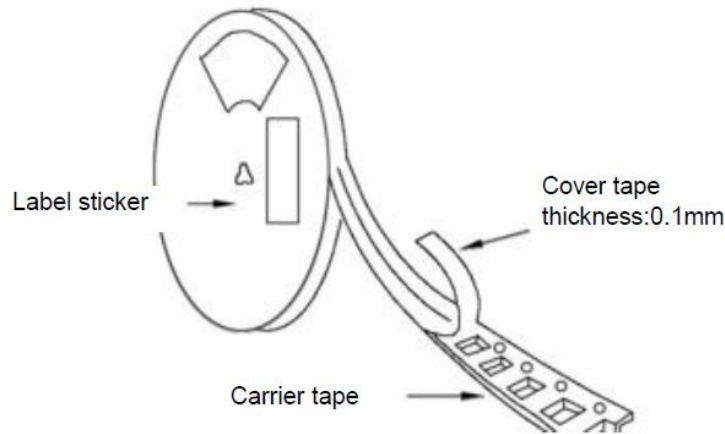
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Package Reel Information



Specifications	Ao	Bo	Ko	Po	W	t1
SMC	6.05±0.10	8.31±0.10	2.54±0.10	4.00±0.1	16.0±0.30	0.30±0.02



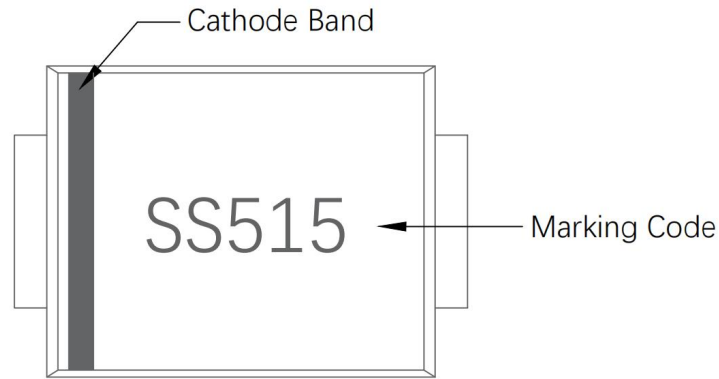
DEVICE TYPE	Tape Width	13"Reel			07"Reel			
		Q'TY/REEL(pcs)	BOX/CARTOO N	Q'TY/CARTON (pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOO N	Q'TY/CARTON (pcs)
SMC	16mm	3000	8	48000	800	3	8	19200



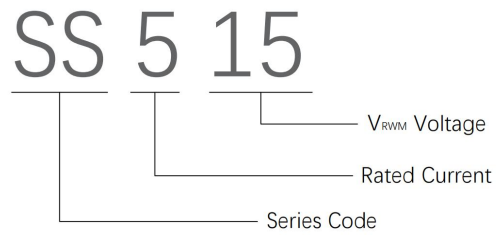
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### Marking Code

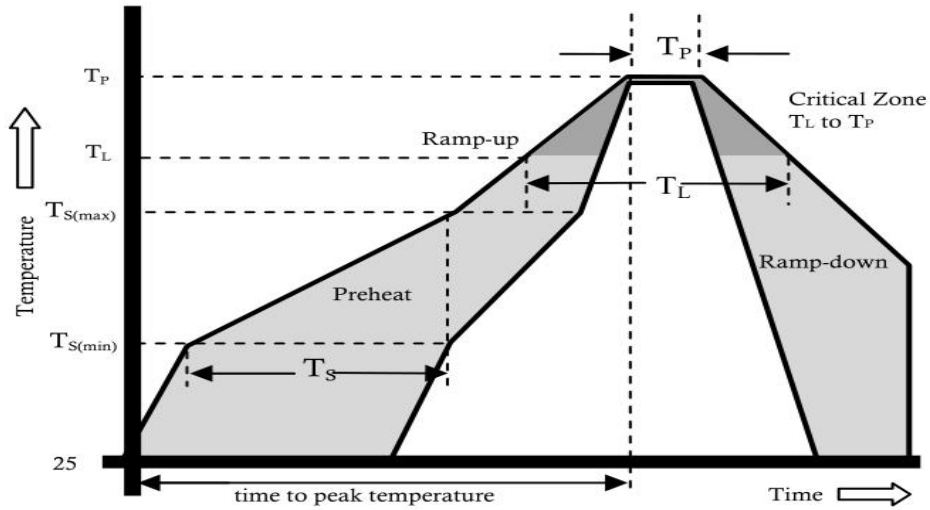


### Part Number Code





Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_S(max)$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_I$ )	60-150 secs.
Peak Temp ( $T_p$ )		+(260+0/-5 )°C
Time within 5°C of actual Peak Temp ( $T_p$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_p$ )		8 min. Max.
Do not exceed		+260°C



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