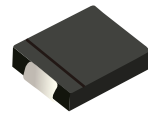
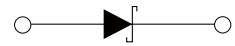


FEATURES

- | Guardring For Overvoltage Protection
- | Low Power Losses
- | Extremely Fast Switching
- | High Forward Surge Capability
- | High Frequency Operation
- | Meet AEC-Q101 Requirements



DO-214AB(SMC)



Schematic Symbol

MECHANICAL DATA

- | Case : Molded Plastic Body
- | Polarity : Polarity Symbol Marking on Body
- | Mounting Position : Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	SS52CQ	SS54CQ	SS56CQ	SS510CQ	SS515CQ	SS520CQ	Unit
Marking			SS52	SS54	SS56	SS510	SS515	SS520	
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	20	40	60	100	150	200	V
Maximum RMS Voltage		V _{RMS}	14	28	42	70	105	140	V
Maximum DC Blocking Voltage		V _{DC}	20	40	60	100	150	200	V
Average Rectified Output Current @60Hz Sine Wave, Resistance Load, Ta (Fig.1)		I _O	5.0						A
Forward Surge Current (Non-Repetitive) @60Hz Half-sine Wave,1 Cycle, Ta=25°C		I _{FSM}	100						A
Maximum Instantaneous Forward Voltage Drop Per Diode I _{FM} =5.0A		V _F	0.55		0.70	0.85	0.95		V
Maximum DC Reverse Current	T _A =25°C	I _R	0.2			0.1			mA
	T _A =100°C		20			5			mA
Typical Junction Capacitance Measured At 1MHz And Applied Reverse Voltage Of 4.0 V.D.C.		C _j	280		220	180	100		pF
Thermal Resistance Junction to Ambient		R _{θJA}	47 ¹⁾						°C/W
Thermal Resistance Junction to Lead		R _{θJL}	13 ¹⁾						°C/W
Operating Junction Temperature Range		T _J	-55 to +150			-55 to +175			°C
Storage Temperature Range		T _{STG}	-55 to +150						°C

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

CHARACTERISTIC CURVES

Fig. 1- I_o - T_a Curve

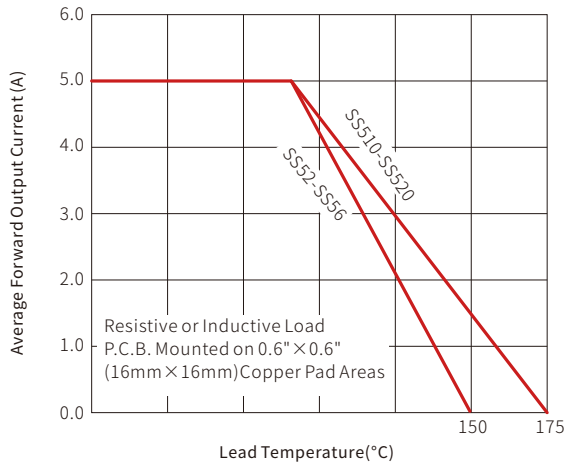


Fig. 2- Forward Surge Current Capability

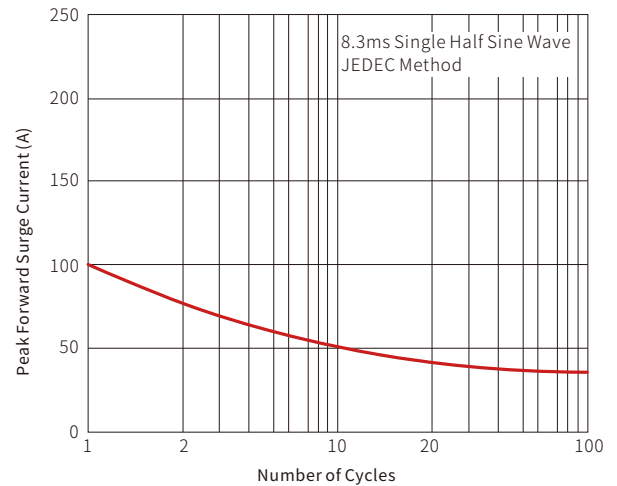


Fig. 3- Forward Voltage

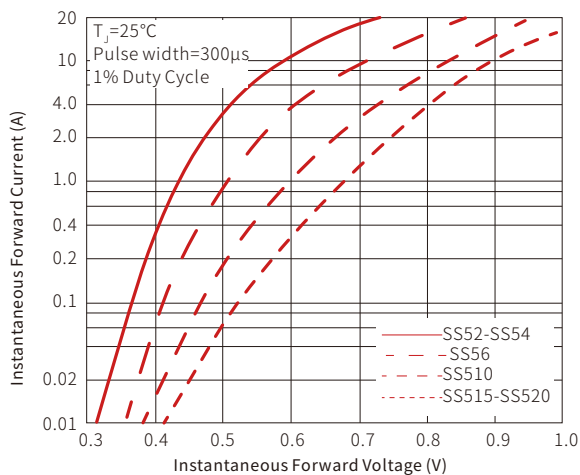
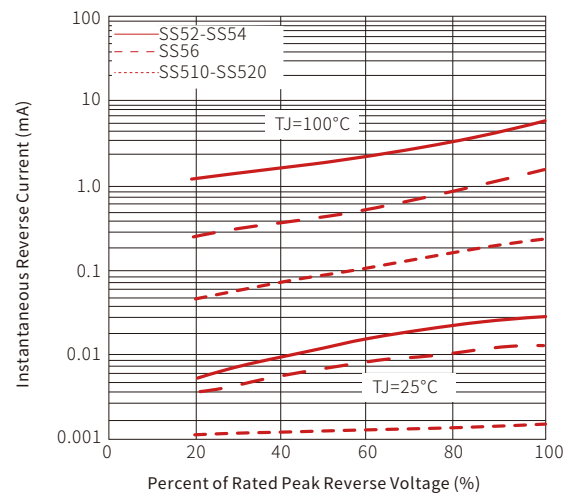
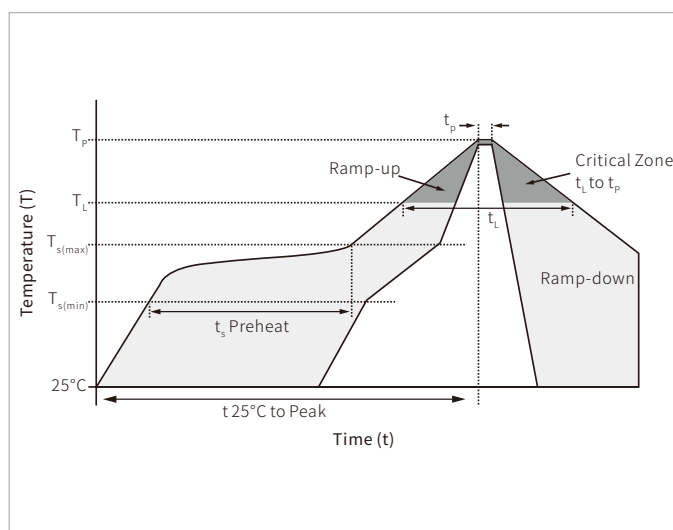


Fig. 4- typical Reverse Leakage Characteristics

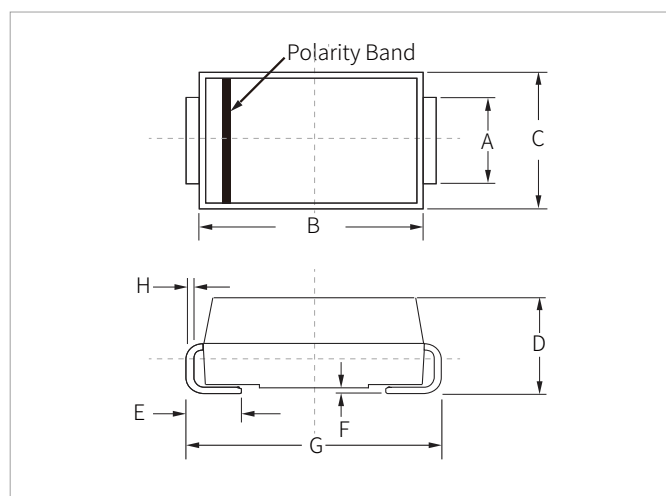


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

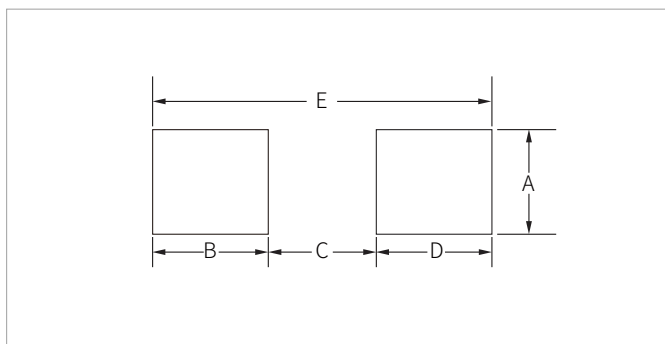


DO-214AB(SMC) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20REF		0.323REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SS52CQ-SS520CQ	DO-214AB(SMC)	3000PCS	13"

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By QR Code

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