

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- AEC-Q101 qualified and PPAP capable



AEC-Q101 Qualified

Mechanical Data

- Case: JEDEC SMC(DO-214AB) molded plastic body
- Terminals: solder plated ,solderable per MIL-STD-750,method 2026
- Polarity: color band denotes cathode end
- Weight: 0.007ounce,0.21 gram

SMC(DO-214AB)



Typical Applications

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

Marking:

JF:Logo
xxxx:Date code
SS54C-V:Type

Maximum Ratings

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum average forward rectified current (see fig.1)	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	120	A
Operating junction 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 Noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	T _J =25°C	I _F =1.0A	V _F ¹⁾	0.37	-	V
		I _F =5.0A		0.50	0.55	
	T _J =125°C	I _F =1.0A		0.25	-	
		I _F =5.0A		0.43	-	
Reverse current	T _J =25°C	V _R =40V	I _R ²⁾	30	100	μA
	T _J =100°C			-	10	mA
	T _J =125°C			-	30	
Typical junction capacitance	4V,1MHz		C _J	260		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

Thermal Characteristics

Parameter	Symbol	SMC	Unit
Typical thermal resistance ³⁾	R _{θJA}	55.0	°C/W
	R _{θJL}	20.0	

3.P.C.B. mounted with 0.55" x 0.55" (14.0 mm x 14.0 mm) copper pad areas, (dP_{tot}/dt_j) < (1/R_{θJA}) is thermal runaway condition for a diode

Availabile Pack Information

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)	Quantity (carton)
SS54C-SMC	T/R	φ330	3000	338×338×39	2	370×370×360	8	48

RATINGS AND CHARACTERISTIC OF SS54C-V

Fig.1-Forward Current Derating Curve

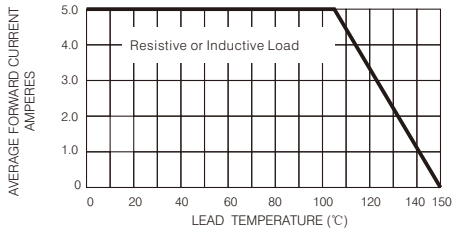


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

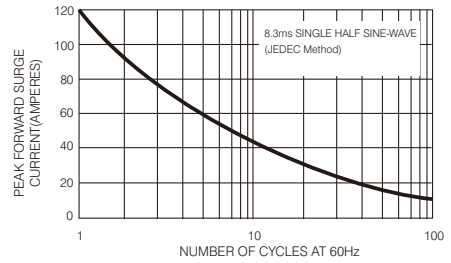


Fig.3-Typical Instantaneous Forward Characteristics

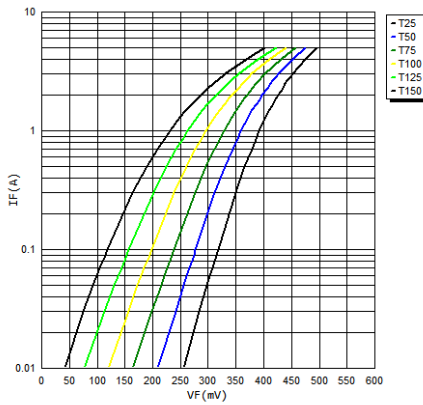


Fig.4-Typical Reverse Characteristics

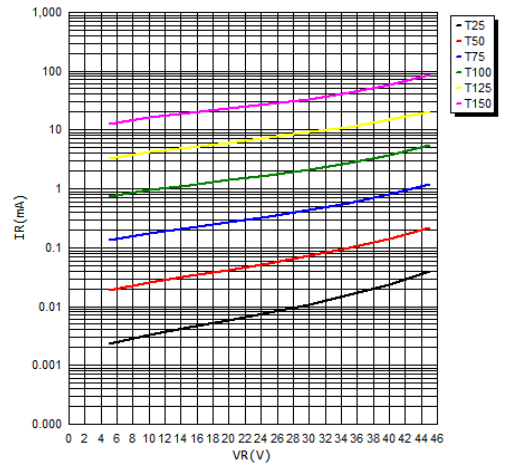
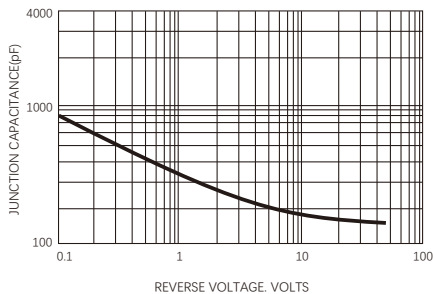
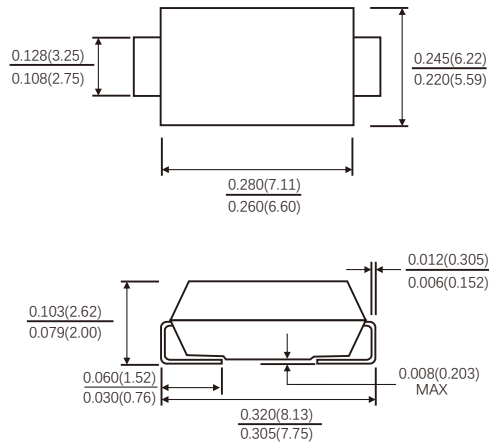


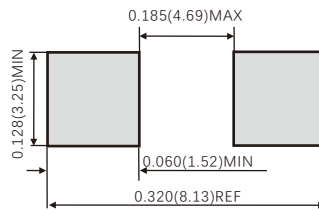
FIG.5-TYPICAL JUNCTION CAPACITANCE



SMC(DO-214AB)



Suggested PAD Layout



Dimensions in inches and (millimeters)

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