

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 2011/65/EU



AEC-Q101 Qualified

MECHANICAL DATA

- Case: JEDEC SMB(DO-214AA) molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.003ounce, 0.093 gram



CASE : SMB(DO-214AA)

MARKING:

JF-Logo

W-Work week

M-Work month

Y-Work year

S-Assembly loaction

SS510LB-V : Device code

V : for automobile

TYPICAL APPLICATIONS

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

MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	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

RATINGS AND CHARACTERISTIC OF SS510LB-V

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I _F =5.0A	T _A =25°C	V _F ¹⁾	0.67	0.70	V
		T _A =100°C		0.65	-	
		T _A =125°C		0.60	-	
Reverse current	V _R =100V	T _A =25°C	I _R ²⁾	10	20	μA
		T _A =100°C		1.5	3	mA
		T _A =125°C		5	10	
Typical junction capacitance	4V, 1MHz		C _J	370		pF

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

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SMB	Unit
Typical thermal resistance ³⁾	R _{θJA}	70.0	°C/W
	R _{θJL}	25.0	

3. Unit mounted on PC board with 5.0mm×5.0 mm (0.013 mm thick) copper pads as heat sink

AVAILABLE 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)
SS510LB-V-SMB	T/R	Φ300	3000	340×340×40	2	370×370×370	8

RATINGS AND CHARACTERISTIC OF SS510LB-V

FIG.1-FORWARD CURRENT DERATING CURVE

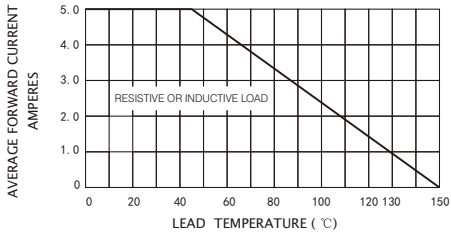


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

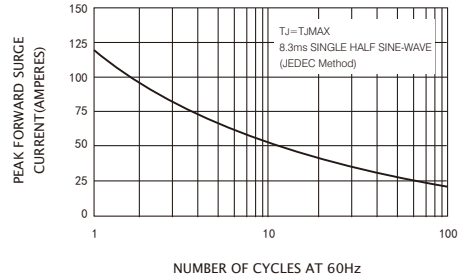


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

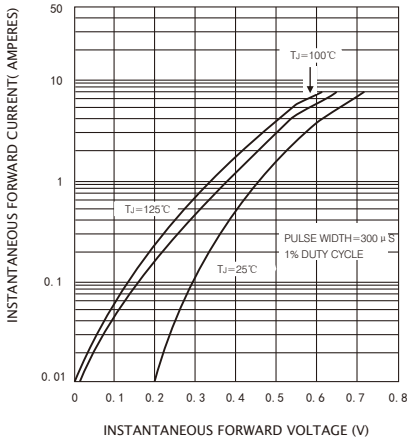


FIG.4-TYPICAL REVERSE CHARACTERISTICS

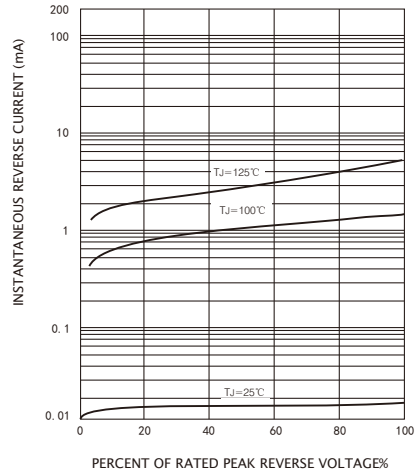
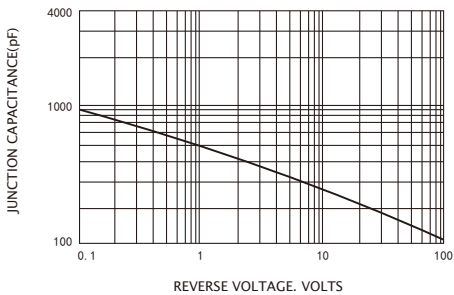
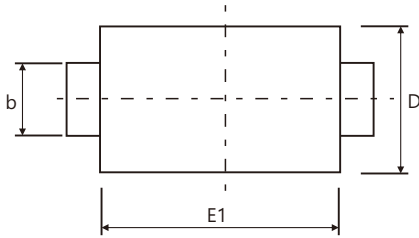


FIG.5-TYPICAL JUNCTION CAPACITANCE

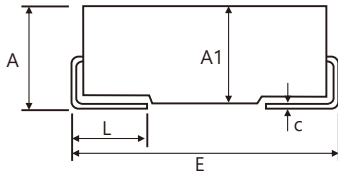


PACKAGE OUTLINE DIMENSIONS

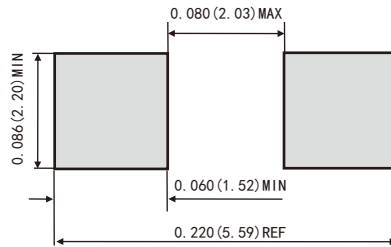
SMB(DO-214AA)



Sym	Value(millimeters)		
	Min	Typ	Max
A	2.13	-	2.44
A1	1.90	-	2.24
b	1.91	-	2.20
c	0.15	-	0.41
D	3.30	-	3.94
E	5.08	-	5.59
E1	4.06	-	4.76
L	0.76	-	1.52



Suggested Pad Layout



Dimensions in inches and (millimeters)