

General Purpose Surface Mount Rectifiers

Reverse Voltage: 50 to 1000V
Forward Current: 3.0 Amp

Features

- Low profile package
- For surface mounted applications
- Glass passivated chip junction
- High forward surge capability
- High temperature soldering guaranteed
260°C/10 seconds at terminals

Mechanical Data

- **Package:** DO-214AA (SMB)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode line denotes the cathode end

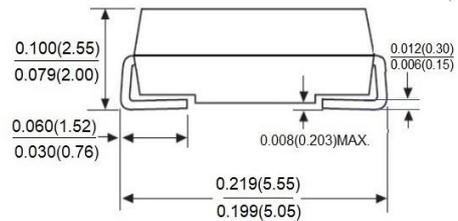
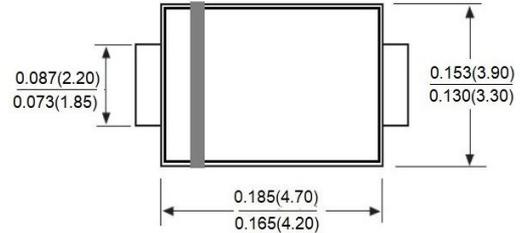
Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

DO-214AA (SMB)

RoHS
COMPLIANT

HALOGEN
FREE



Dimensions in inches and (millimeters)



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

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

Parameter&Test Conditions	SYM.	S3A	S3B	S3D	S3G	S3J	S3K	S3M	Unit	
Device marking code		S3A	S3B	S3D	S3G	S3J	S3K	S3M		
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V	
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _{O(AV)}	3.0								A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I _{FSM}	100								A
Maximum Thermal Resistance, Junction To Ambient (Note1)	R _{θJA}	60								°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150								°C

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Parameter&Test Conditions	SYM.	S3A	S3B	S3D	S3G	S3J	S3K	S3M	Unit	
Maximum Instantaneous Forward Voltage IFM =3A	V _{FM}	1.1								V
Maximum DC reverse current at rated DC blocking voltage	TA = 25°C	5								μA
	TA = 125°C	200								
Typical junction capacitance(Note2)	C _J	25								pF

Notes:

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad area.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

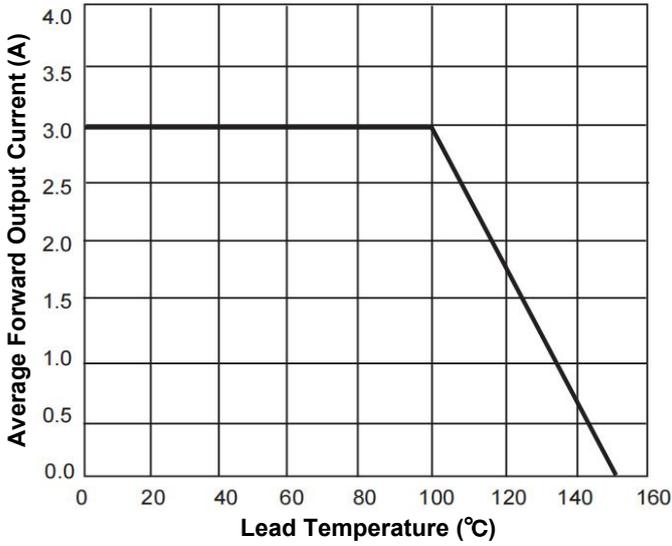


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

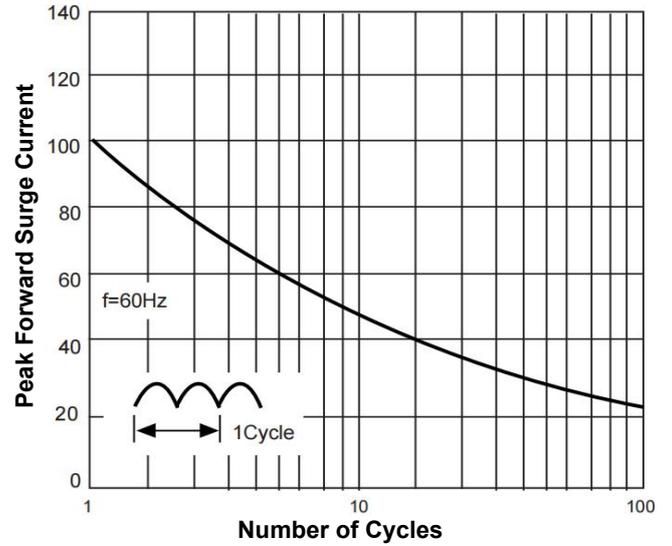


FIG. 3- TYPICAL FORWARD VOLTAGE

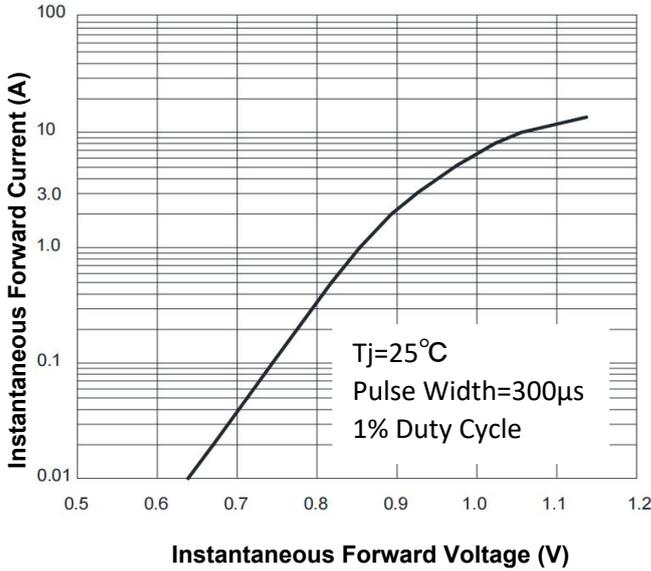
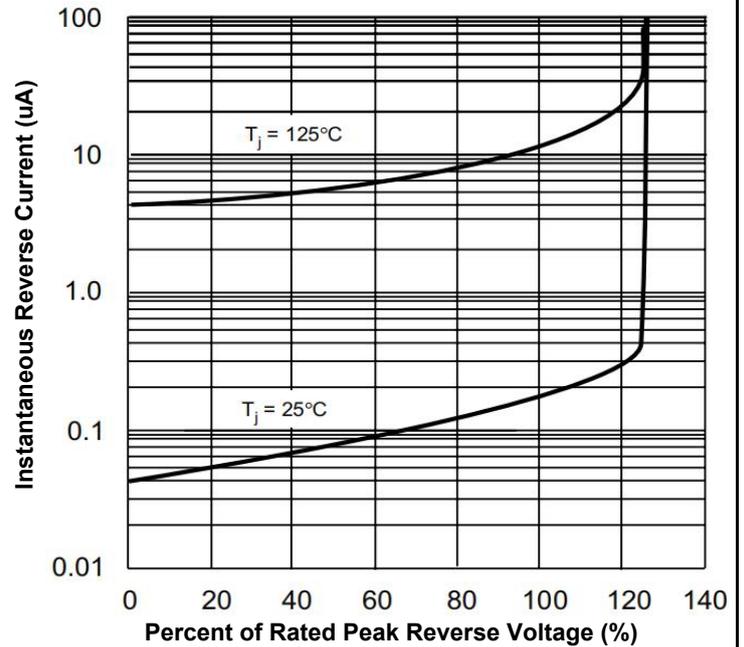
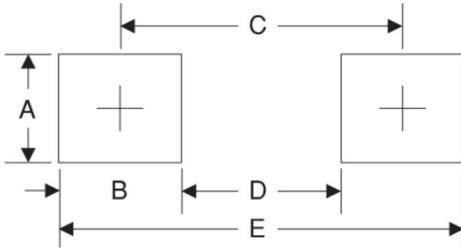


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

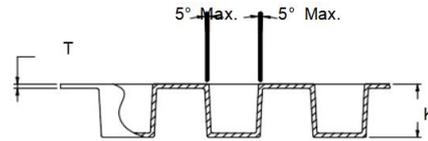
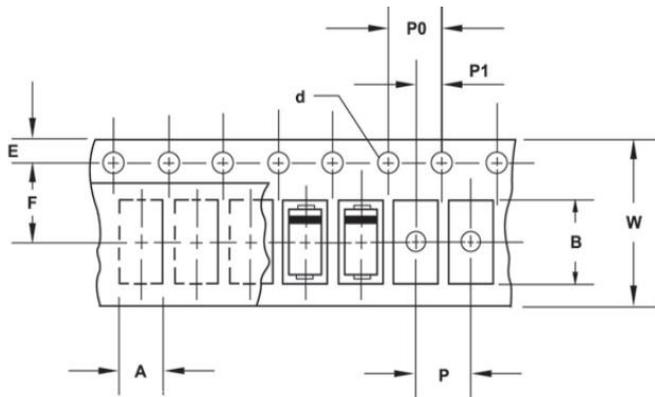
Recommended Pad Layout



SYMBOL	Millimeters
A	2.30
B	2.50
C	4.30
D	1.80
E	6.80

Package Information

Carrier Dimension(mm)



W	F	d	E
12.0	5.5	∅ 1.55	1.75
A	B	K	T
4.0	5.8	2.6	0.25
P0	P1	P	Tolerance
4.0	2.0	8.0	0.10

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMB	13'	330	3	340	6	435*360*360	60

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