

## SURFACE MOUNT FAST RECOVERY RECTIFIERS

### Reverse Voltage – 50 to 1000 Volts

### Forward Current – 3.0 Ampere

### Features

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency
- AEC-Q101 qualified (Automotive grade with suffix "Q".)



### Mechanical Data

- **Case:** SMB molded plastic.
- **Mounting position:** Any
- **Lead:** Lead formed for surface mount
- **Polarity:** Color band denotes cathode end

### Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	RS3AB	RS3BB	RS3DB	RS3GB	RS3JB	RS3KB	RS3MB	Units
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
Maximum Average Forward Rectified Current at $T_L = 90\text{ }^\circ\text{C}$	$I_{F(AV)}$	3							A
Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	100							A
Maximum Forward Voltage at 3 A	$V_F$	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	5 250							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	150				250	500		ns
Typical Junction Capacitance <sup>2)</sup>	$C_J$	60							pF
Typical Thermal Resistance <sup>3)</sup>	$R_{\theta JL}$ $R_{\theta JA}$	25 55							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150							$^\circ\text{C}$

<sup>1)</sup> Reverse recovery time test conditions:  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

<sup>2)</sup> Measured at 1 MHz and applied reverse voltage of 4 V.

<sup>3)</sup> Thermal resistance from junction to ambient P.C.B mounted on 0.2 X 0.2" (5 X 5 mm<sup>2</sup>) copper pad area.

RATING AND CHARACTERISTICS CURVES (RS3AB THRU RS3MB)

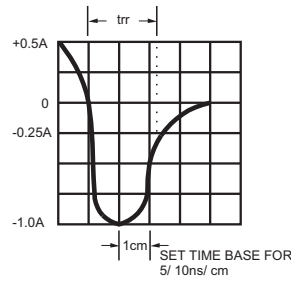
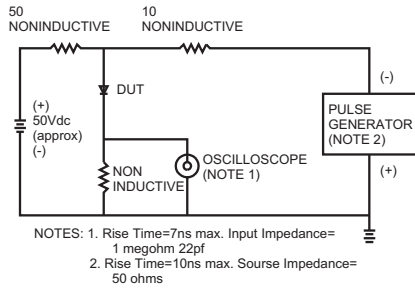


FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

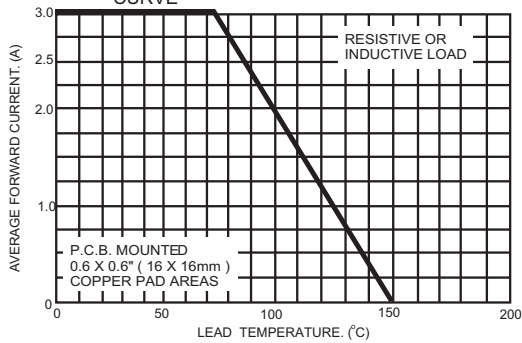


FIG.2- TYPICAL REVERSE CHARACTERISTICS

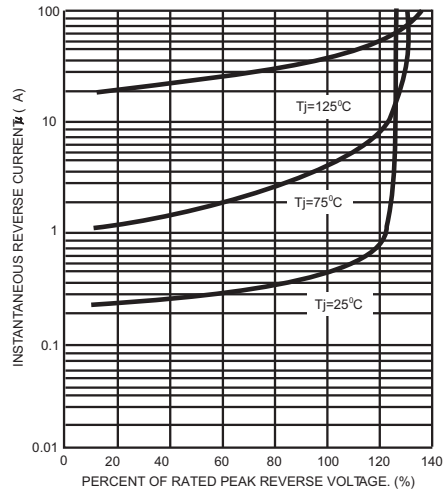


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

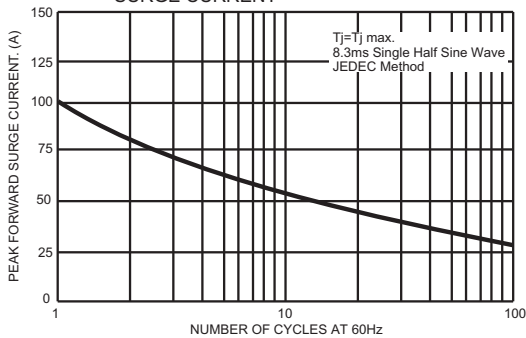


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

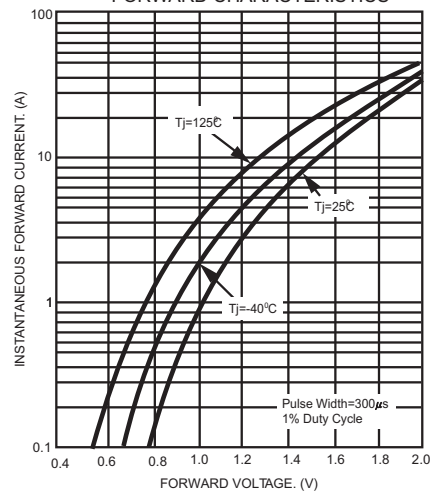
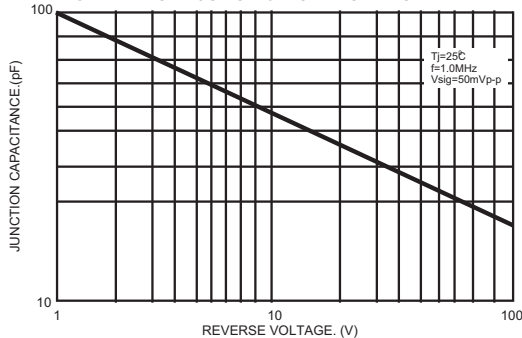
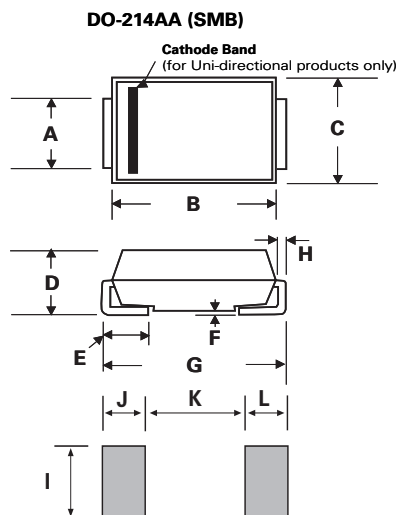


FIG.4- TYPICAL JUNCTION CAPACITANCE



Dimensions

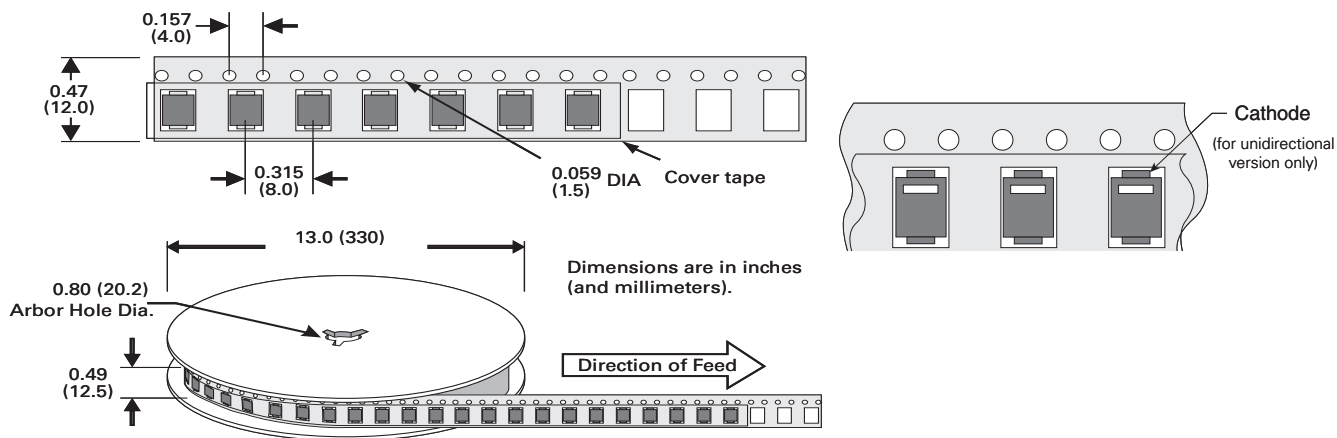


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.066	0.091	1.700	2.300
B	0.160	0.191	4.060	4.850
C	0.130	0.155	3.300	3.940
D	0.083	0.098	2.100	2.500
E	0.030	0.060	0.760	1.520
F	-	0.011	-	0.300
G	0.200	0.220	5.08	5.590
H	0.006	0.012	0.152	0.310
I	0.082	-	2.100	-
J	0.070	-	1.800	-
K	-	0.107	-	2.740
L	0.070	-	1.800	-

Ordering information

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
RS3XB	DO-214AA	3000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specification



Note: Devices are packed in accordance with EIA standard RS-481-A and specification given above.