

Features

- Glass passivated superfast recovery rectifiers
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- High temperature soldering 260°C/10 seconds at terminals
- Plastic material used carries underwriters laboratory classification 94V-0



DO-214AA (SMB)

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2J	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	2.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	50							A
Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	10.0							A^2sec
Operating Junction Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Symbol	ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2J	Unit
Maximum Instantaneous Forward Voltage	$I_F=2.0\text{A}$, $T_A=25^\circ\text{C}$	V_F	0.95				1.3		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	I_R	10							μA
	$T_A=100^\circ\text{C}$		100							
Typical Reverse Recovery Time	$I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$	t_{rr}	35							nS
Typical Junction Capacitance	4.0V 1MHz	C_J	25				20			pF
Typical Thermal Resistance Junction to Ambient ¹		$R_{\theta JA}$	75							$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Lead ¹		$R_{\theta JL}$	25							$^\circ\text{C/W}$

Notes: 1. The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 5×5mm copper pads, 2 OZ, FR4 PCB

Typical Characteristics Curves

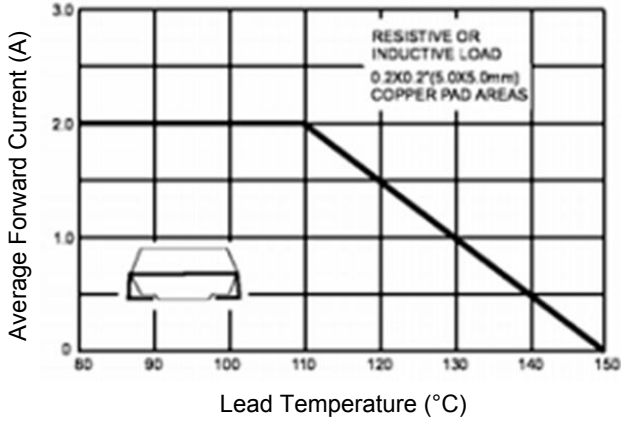


Figure 1. Forward Current Derating Curve

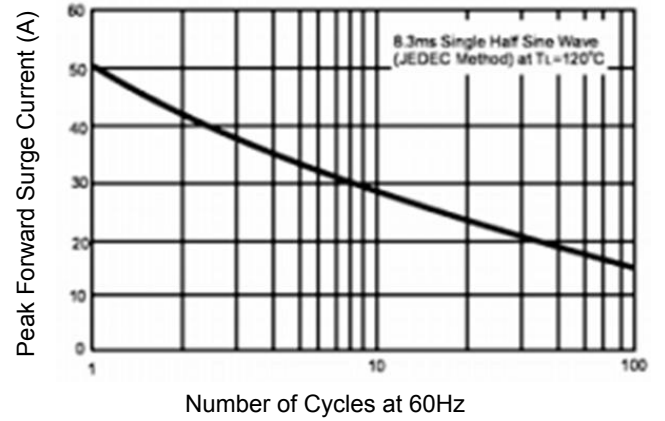


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

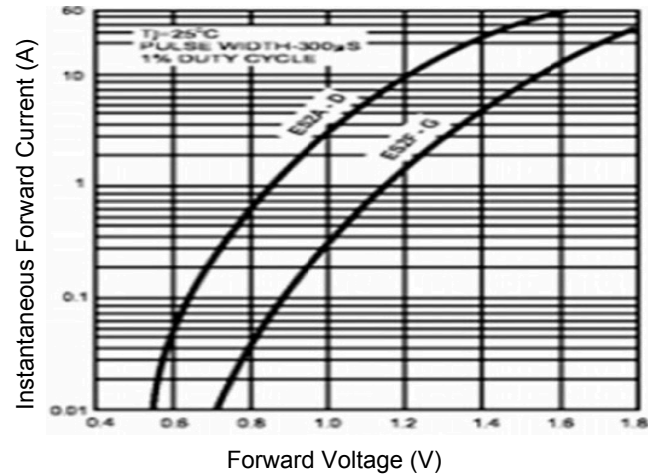


Figure 3. Typical Instantaneous Forward Characteristics

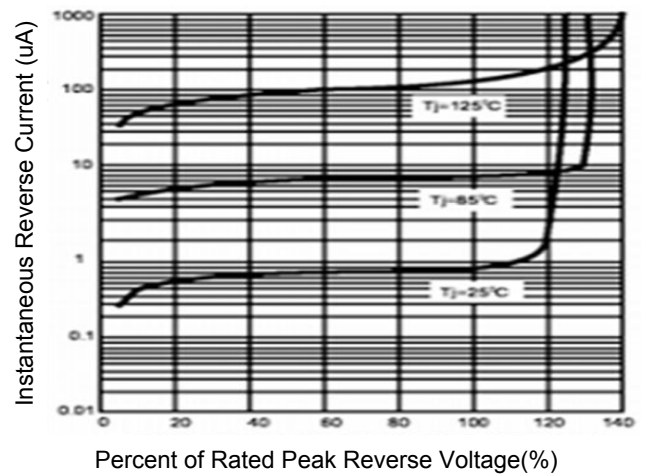


Figure 4. Typical Reverse Characteristics

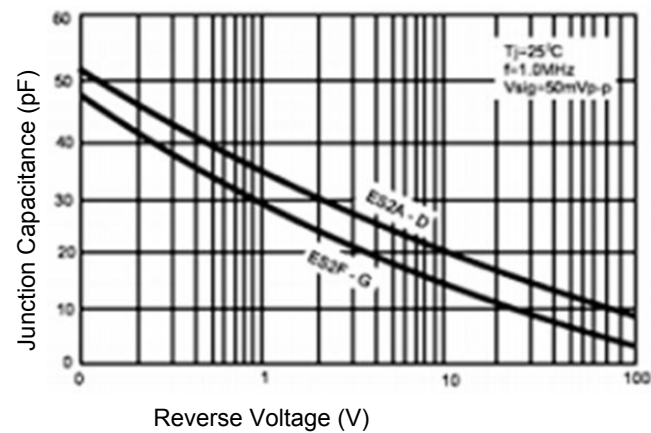
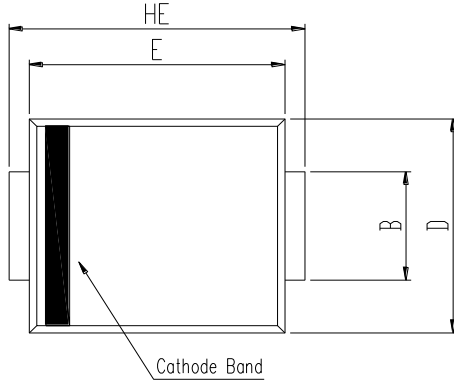
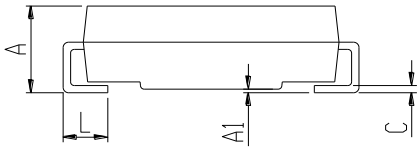


Figure 5. Typical Junction Capacitance

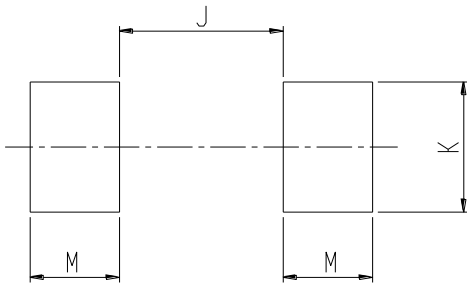
Package Outline Dimensions DO-214AA (SMB)



SMB (DO-214AA)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.99	2.61	0.078	0.103
A1	0.00	0.20	0.000	0.008
B	1.93	2.08	0.076	0.082
C	0.15	0.31	0.006	0.012
D	3.48	3.73	0.137	0.147
E	4.25	4.75	0.167	0.187
HE	5.26	5.46	0.207	0.215
L	0.90	1.41	0.035	0.056



Recommended Pad Layout



SMB Recommended Pad Layout (Reference Only)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.60	-	0.102
K	2.20	-	0.087	-
M	1.80	-	0.071	-