GOOD-ARK
SEMICONDUCTOR

ES3D thru ES3J

Super Fast Recovery Rectifiers
Reverse Voltage 200V-600V Forward Current 3A

Features

- Glass passivated superfast recovery rectifiers
- Low profile package
- Built-in strain relief
- Ideal for automated placement
- High temperature soldering 250°C/10seconds at terminals
- Plastic material used carries underwriters laboratory classification 94V-0

RoHS COMPLIANT

DO-214AB (SMC)

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	ES3D	ES3G	ES3J	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0			A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (T_L=100°C)	I_{FSM}	100			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	Symbol	ES3D	ES3G	ES3J	Unit
Maximum Instantaneous Forward Voltage @3.0A	V_F	0.95	1.3	1.7	V
Typical Junction Capacitance[2]	C_J	50	40		pF
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R (T_A=25°C)	10			uA
	I_R (T_A=100°C)	500			uA
Typical Reverse Recovery Time [1]	t_{rr}	35			nS
Typical Thermal Resistance Junction to Ambient[3]	$R_{\theta JA}$	47			°C/W
Typical Thermal Resistance Junction to Lead[3]	$R_{\theta JL}$	12			°C/W

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Units Mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) Copper Pad Areas

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Typical Characteristics Curves

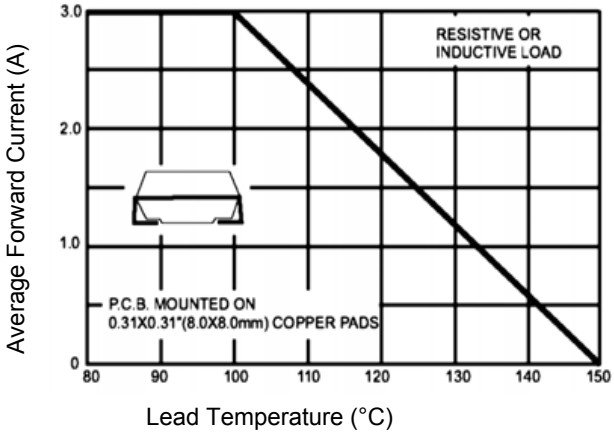

Figure 1.Forward Current Derating Curve

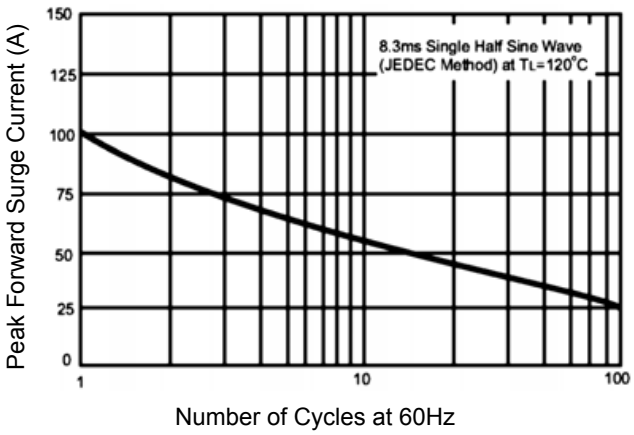

Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

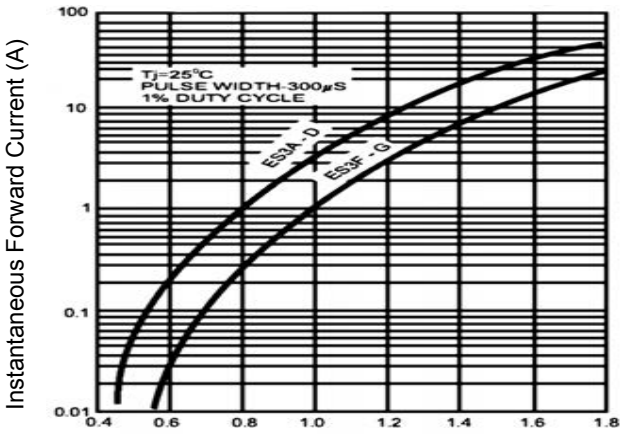

Figure 3. Typical Instantaneous Forward Characteristics

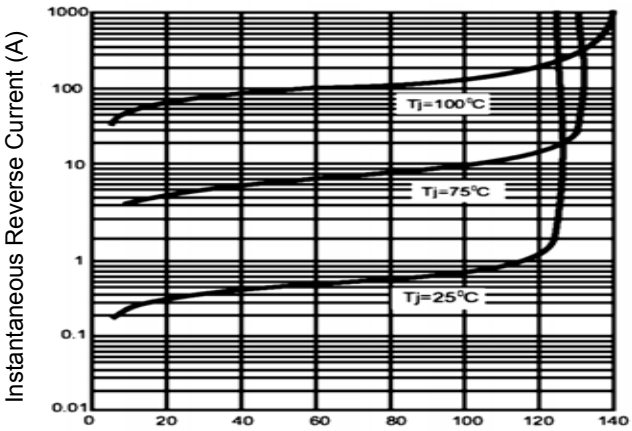

Figure 4. Typical Reverse Characteristics

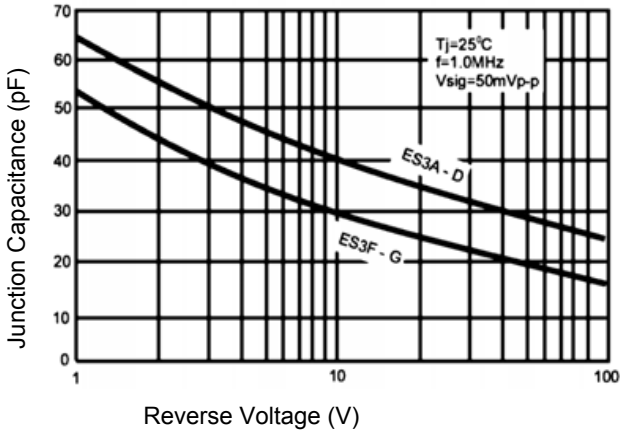

Figure 5. Typical Junction Capacitance

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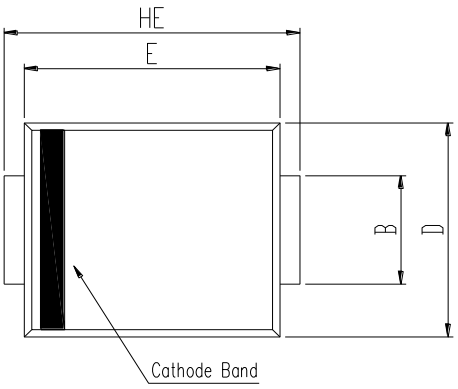
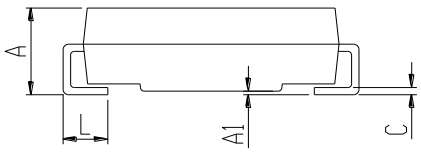
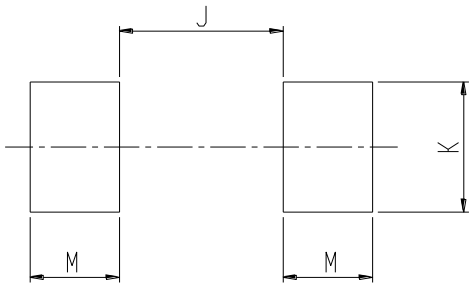
Package Outline Dimensions DO-214AB (SMC)





SMC (DO-214AB)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.00	0.20	0.000	0.008
B	2.92	3.07	0.115	0.121
C	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	6.60	7.11	0.260	0.280
HE	7.75	8.13	0.305	0.320
L	0.76	1.52	0.030	0.060

Recommended Pad Layout



SMC Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	4.60	-	0.181
K	3.20	-	0.126	-
M	2.00	-	0.079	-