

## 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



DO-214AB (SMC)

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3J	ES3K	ES3M	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	3.0									A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (T <sub>L</sub> =100°C)	I <sub>FSM</sub>	100									A
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150									°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150									°C

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3J	ES3K	ES3M	Unit
Maximum Instantaneous Forward Voltage @3.0A	V <sub>F</sub>	0.95				1.3		1.7			V
Typical Junction Capacitance <sup>2</sup>	C <sub>J</sub>	50				40					pF
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub> (T <sub>A</sub> =25°C)	10					uA				
	I <sub>R</sub> (T <sub>A</sub> =100°C)	500					uA				
Typical Reverse Recovery Time <sup>1</sup>	t <sub>rr</sub>	35					nS				
Typical Thermal Resistance Junction to Ambient <sup>3</sup>	R <sub>θJA</sub>	47					°C/W				
Typical Thermal Resistance Junction to Lead <sup>3</sup>	R <sub>θJL</sub>	12					°C/W				

- Notes:**
1. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
  2. Measured at 1 MHz and Applied V<sub>R</sub>=4.0 Volts
  3. Units Mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) Copper Pad Areas

## Typical Characteristics Curves

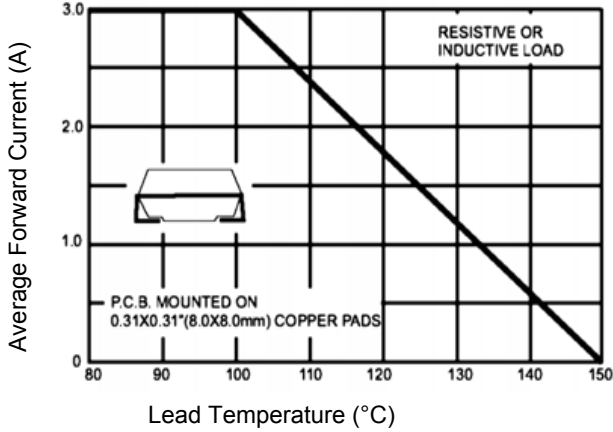


Figure 1. Forward Current Derating Curve

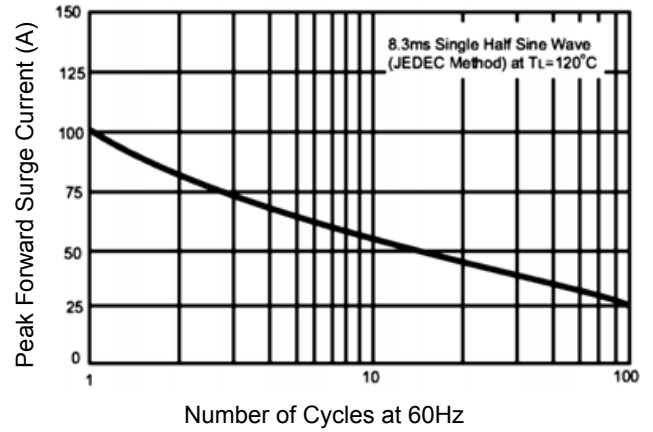


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

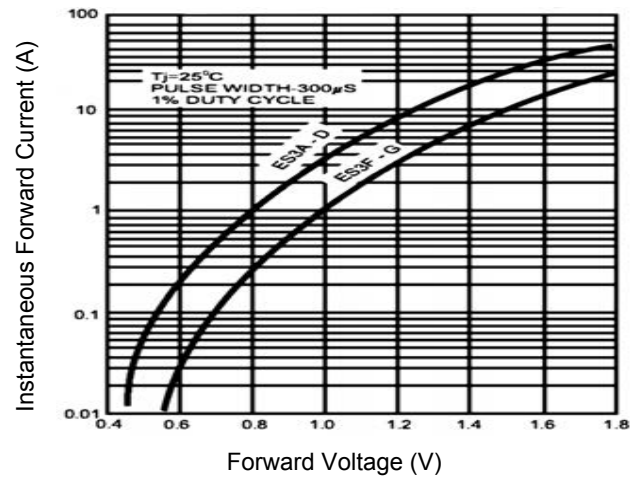


Figure 3. Typical Instantaneous Forward Characteristics

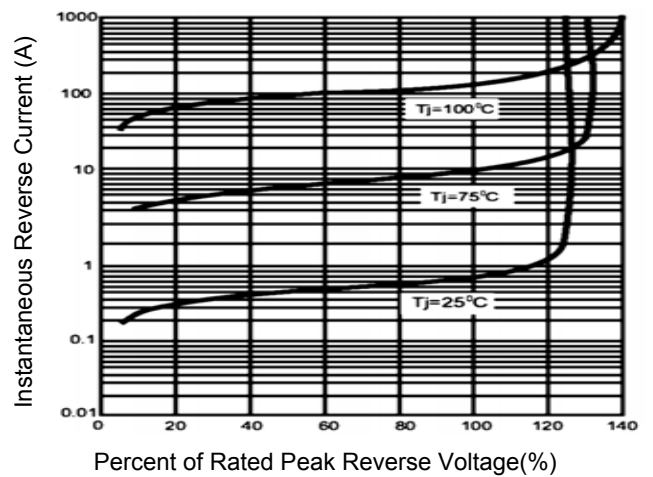


Figure 4. Typical Reverse Characteristics

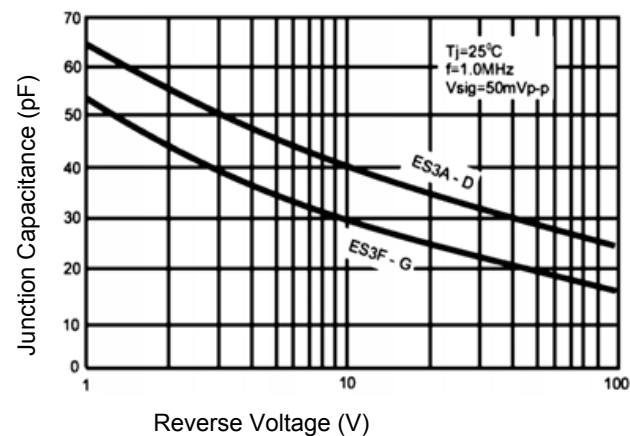
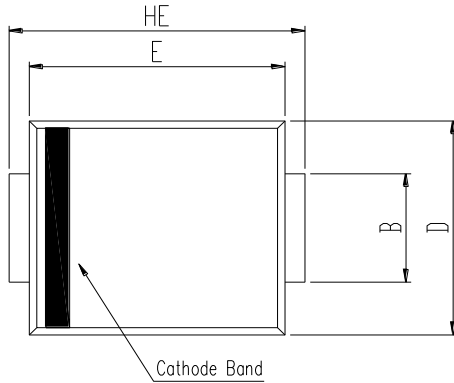
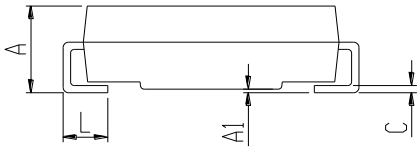


Figure 5. Typical Junction Capacitance

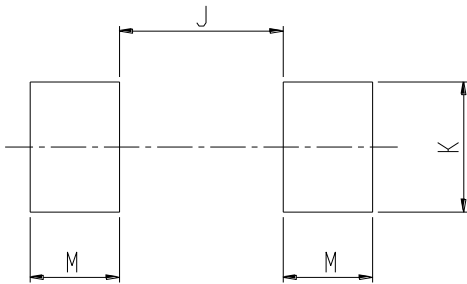
## Package Outline Dimensions DO-214AB (SMC)



DIM	SMC (DO-214AB)			
	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



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