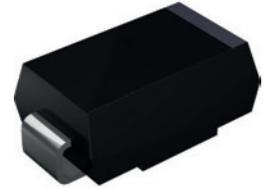


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C



DO-214AB (SMC)

Mechanical Data

- Package: DO-214AB (SMC)
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes the cathode end

Typical Applications

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

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

Parameter	Symbol	GS US3A	GS US3B	GS US3D	GS US3F	GS US3G	GS US3J	GS US3K	GS US3M	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	1000	V
Average Rectified Output Current @ 60Hz Sine Wave, Resistance Load, T_L (Fig.1)	I_o	3.0								A
Forward Surge Current (Non-Repetitive) @ 60Hz Half-Sine Wave, 1 Cycle, $T_J=25^\circ\text{C}$	I_{FSM}	100								A
Forward Surge Current (Non-Repetitive) @ 1ms, Square Wave, 1 Cycle, $T_J=25^\circ\text{C}$		200								
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$, $T_J=25^\circ\text{C}$	I^2t	41.5								A^2s
Typical Thermal Resistance ¹	$R_{\theta JA}$	48								$^\circ\text{C/W}$
	$R_{\theta JL}$	15								
	$R_{\theta JC}$	12								
Storage Temperature Range	T_{stg}	-55 to +150								$^\circ\text{C}$
Junction Temperature Range	T_J	-55 to +150								$^\circ\text{C}$

Note:

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16mm x 16mm) copper pad areas.

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

Parameters	Symbols	Conditions	GS US3A	GS US3B	GS US3D	GS US3F	GS US3G	GS US3J	GS US3K	GS US3M	Unit
Maximum Instantaneous Forward Voltage	V_F	$I_{FM}=3.0A$	1.0		1.3		1.7				V
Maximum Reverse Recovery Time	t_{rr}	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	50				75				ns
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_J=25^\circ\text{C}$	5								μA
		$T_J=125^\circ\text{C}$	100								
Typical Junction Capacitance	C_J	Measured at 1MHz and Applied Reverse Voltage of 4.0V.D.C	60		40		24				pF

Typical Characteristics Curves

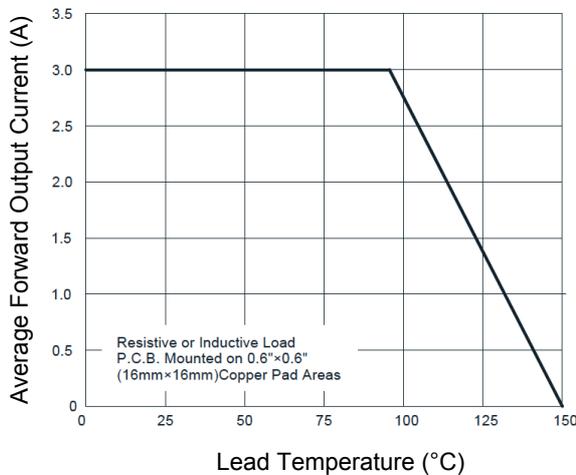


Figure 1. I_O-T_L Curve

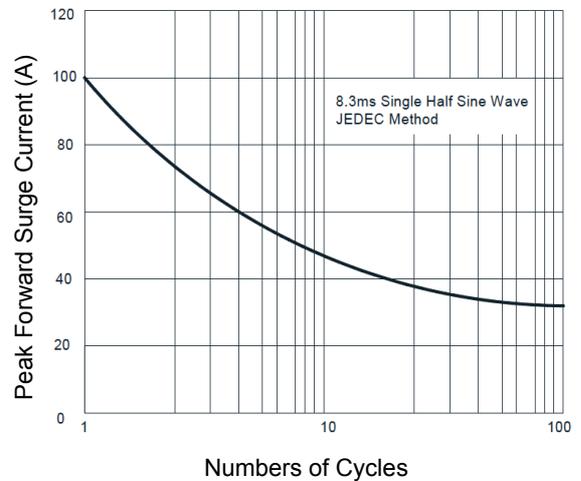


Figure 2. Forward Surge Current Capability

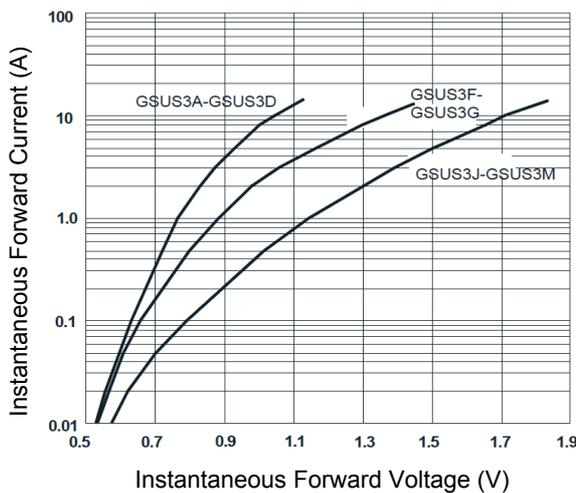


Figure 3. Typical Forward Voltage

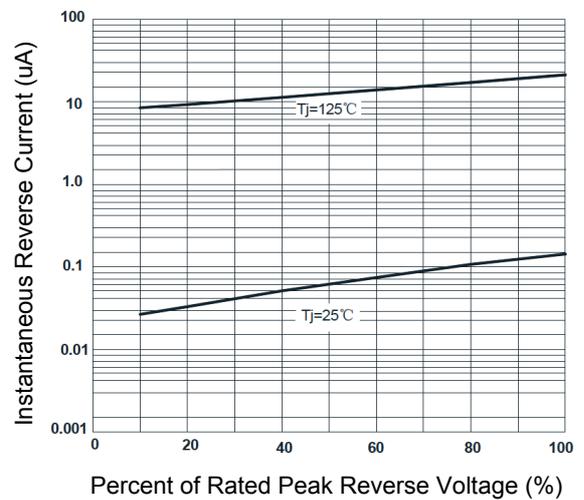
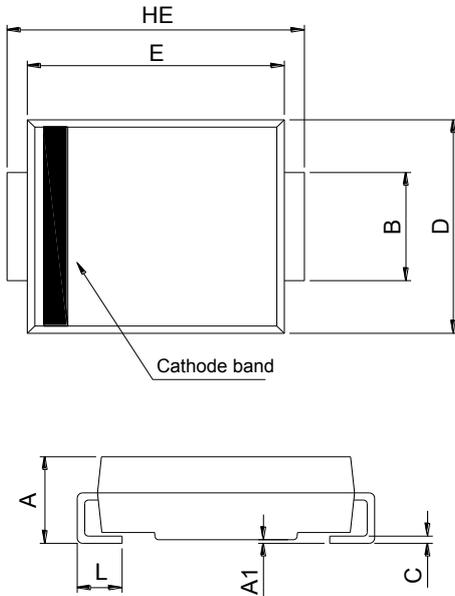


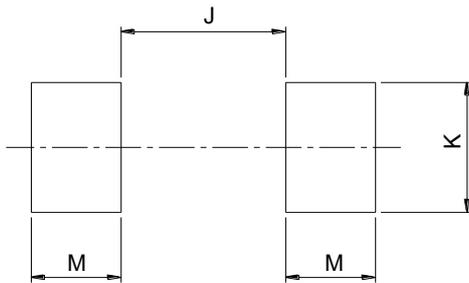
Figure 4. Typical Reverse Characteristics

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	2.90	3.20	0.114	0.126
C	0.15	0.31	0.006	0.012
D	5.58	6.22	0.220	0.245
E	6.60	7.15	0.260	0.281
HE	7.75	8.15	0.305	0.321
L	0.76	1.60	0.030	0.063

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	-

Order Information

Device	Package	Marking	Carrier	Quantity
GSUS3A	DO-214AB (SMC)	US3A	Tape & Reel	3,000 pcs / Reel
GSUS3B	DO-214AB (SMC)	US3B	Tape & Reel	3,000 pcs / Reel
GSUS3D	DO-214AB (SMC)	US3D	Tape & Reel	3,000 pcs / Reel
GSUS3F	DO-214AB (SMC)	US3F	Tape & Reel	3,000 pcs / Reel
GSUS3G	DO-214AB (SMC)	US3G	Tape & Reel	3,000 pcs / Reel
GSUS3J	DO-214AB (SMC)	US3J	Tape & Reel	3,000 pcs / Reel
GSUS3K	DO-214AB (SMC)	US3K	Tape & Reel	3,000 pcs / Reel
GSUS3M	DO-214AB (SMC)	US3M	Tape & Reel	3,000 pcs / Reel