

GES3A thru GES3K

Surface Mount Super Fast Recovery Rectifiers
 Reverse Voltage 50V-800V Forward Current 3.0A

Features

- Super-fast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260°C max. 10s, per JESD 22-B106



DO-214AB (SMC)

Mechanical Data

- Package: DO-214AB (SMC)
Molding compound meets UL 94 V-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

Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

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

Parameters	Symbols	GES 3A	GES 3B	GES 3C	GES 3D	GES 3F	GES 3G	GES 3H	GES 3J	GES 3K	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	500	600	800	V
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	350	420	560	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	500	600	800	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°C	I _{FSM}	100									A
Forward Surge Current (Non-Repetitive) @ 1ms, Square Wave, 1 cycle, T _J =25°C		200									
Current Squared Time @ 1ms ≤ t ≤ 8.3ms, T _J =25°C	I ² t	41.5									A ² s
Typical Thermal Resistance, Junction to Ambient ¹	R _{θJA}	50.0									°C/W
Typical Thermal Resistance, Junction to Lead ¹	R _{θJL}	16.0									
Typical Thermal Resistance, Junction to Case ¹	R _{θJC}	12.0									
Storage Temperature	T _{STG}	-55 to +150									°C
Junction Temperature	T _J	-55 to +150									°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" (16 mm x 16 mm) copper pad areas

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Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameters	Symbols	Test Conditions	GES 3A	GES 3B	GES 3C	GES 3D	GES 3F	GES 3G	GES 3H	GES 3J	GES 3K	Units
Maximum Instantaneous Forward Voltage	V _F	I _{FM} =3.0A	0.95			1.3			1.7		2.2	V
Maximum Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	35									ns
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	T _J =25°C	5									μA
		T _J =125°C	100									
Typical Junction Capacitance	C _J	Measured at 1MHz and Applied Reverse Voltage of 4.0V.D.C	60			35			29		21	pF

Typical Characteristics Curves

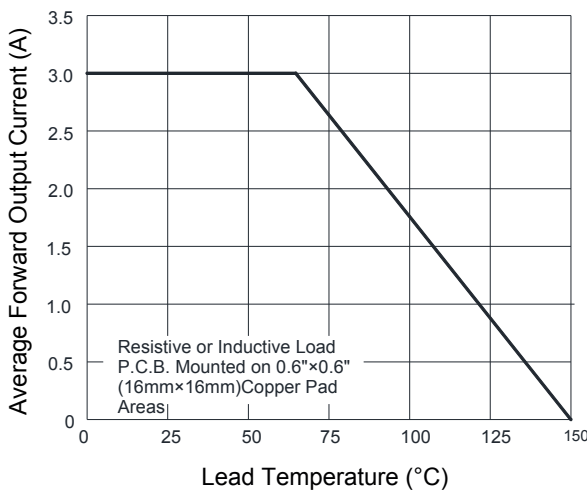


Figure 1. I_o-T_L Curve

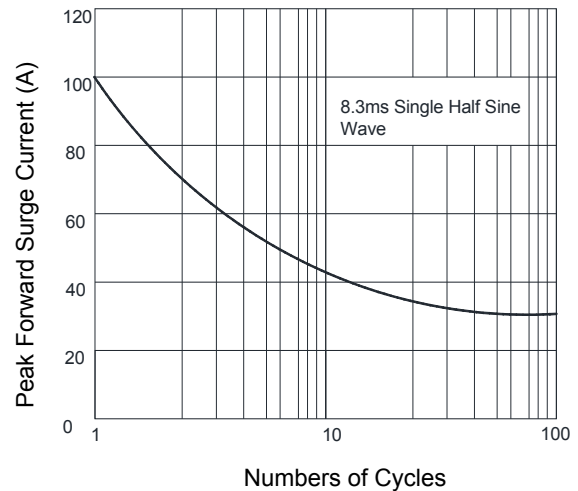


Figure 2. Surge Forward Current Capability

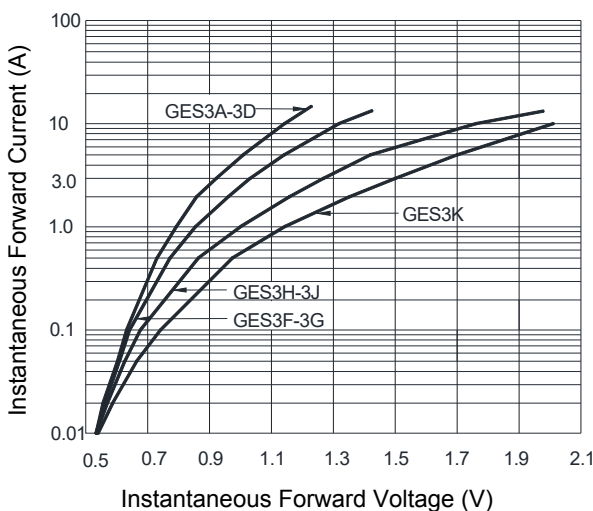


Figure 3. Typical Forward Voltage

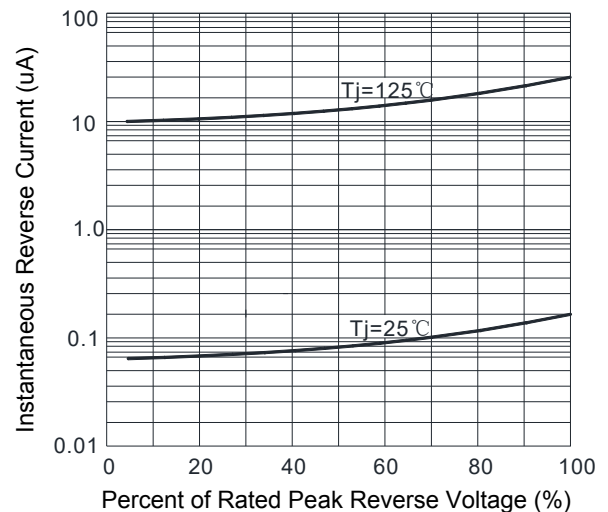
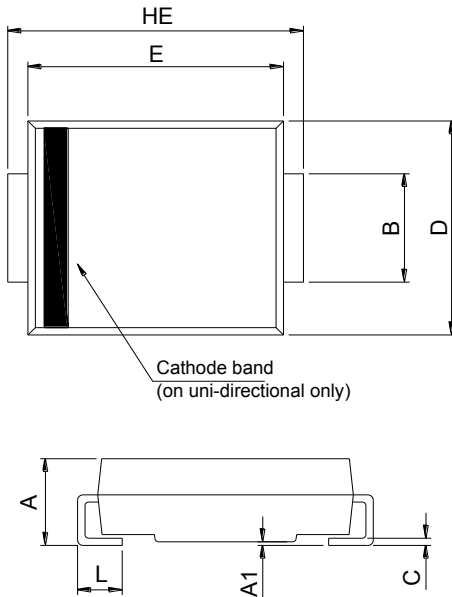


Figure 4. Typical Reverse Characteristics

GES3A thru GES3K

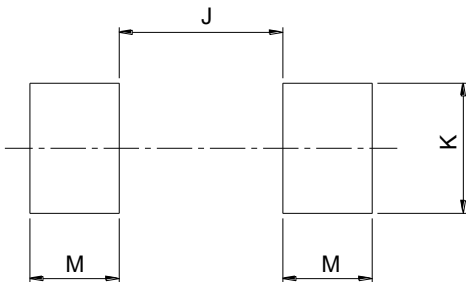
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Package Outline Dimensions DO-214AB (SMC)



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	2.90	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
GES3A	DO-214AB (SMC)	ES3A	Tape & Reel	3,000 pcs / Reel
GES3B	DO-214AB (SMC)	ES3B	Tape & Reel	3,000 pcs / Reel
GES3C	DO-214AB (SMC)	ES3C	Tape & Reel	3,000 pcs / Reel
GES3D	DO-214AB (SMC)	ES3D	Tape & Reel	3,000 pcs / Reel
GES3F	DO-214AB (SMC)	ES3F	Tape & Reel	3,000 pcs / Reel
GES3G	DO-214AB (SMC)	ES3G	Tape & Reel	3,000 pcs / Reel
GES3H	DO-214AB (SMC)	ES3H	Tape & Reel	3,000 pcs / Reel
GES3J	DO-214AB (SMC)	ES3J	Tape & Reel	3,000 pcs / Reel
GES3K	DO-214AB (SMC)	ES3K	Tape & Reel	3,000 pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com