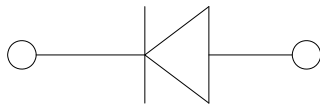
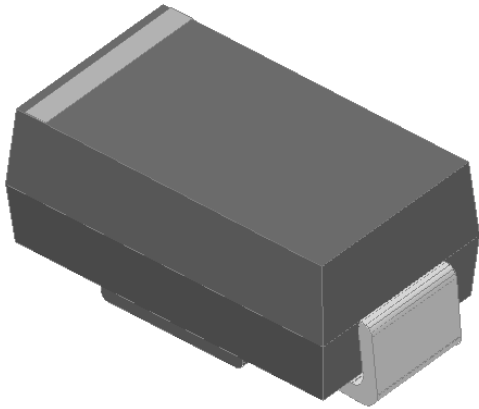


Surface Mount General Purpose Rectifier



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, automotive and telecommunication.

Mechanical Data

- **Package:** DO-214AC (SMA)
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:** Cathode line denotes the cathode end

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ	
Device marking code			GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	
Repetitive peak reverse voltage	V _{RRM}	V	50	100	200	400	600	800	1000	
Maximum RMS voltage	V _{RMS}	V	35	70	140	280	420	560	700	
Maximum DC blocking voltage	V _{DC}	V	50	100	200	400	600	800	1000	
Average rectified output current @60Hz sine wave, Resistance load, T _a (Fig.1)	I _O	A	1.0							
Surge (non-repetitive) forward current @ 60Hz Half-sine wave, 1 cycle, T _a =25°C	I _{FSM}	A	40							
Current squared time @1ms≤t≤8.3ms T _J =25°C, Rating of per diode	I ² t	A ² S	6.64							
Storage temperature	T _{stg}	°C	-55~+175					-55~+150		
Junction temperature	T _J	°C	-55 ~ +175					-55 ~ +150		

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	1.1						
Typical junction capacitance	C _J	pF	4V, 1 MHz	16					12	
Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM}	I _{RRM}	μA	T _a =25°C	5						
			T _a =125°C	50						



GS1AQ THRU GS1MQ

■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

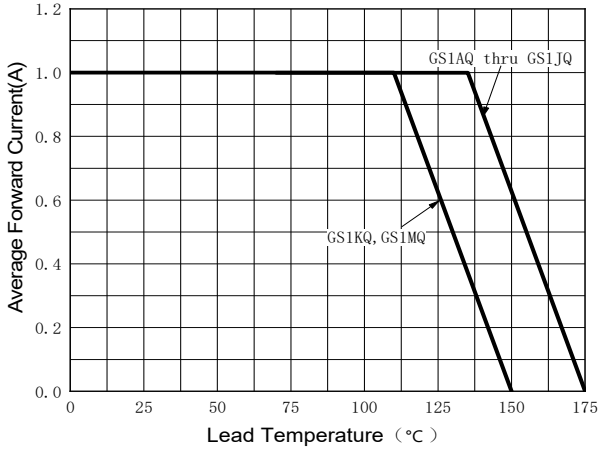


Fig.2 - Forward Surge Current Capability

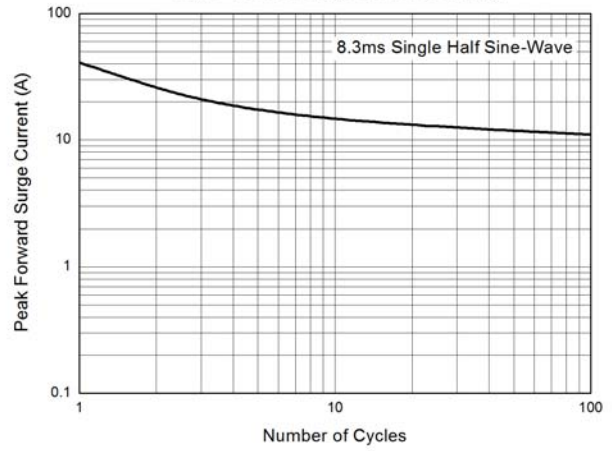


Fig.3-Typical Forward Characteristics

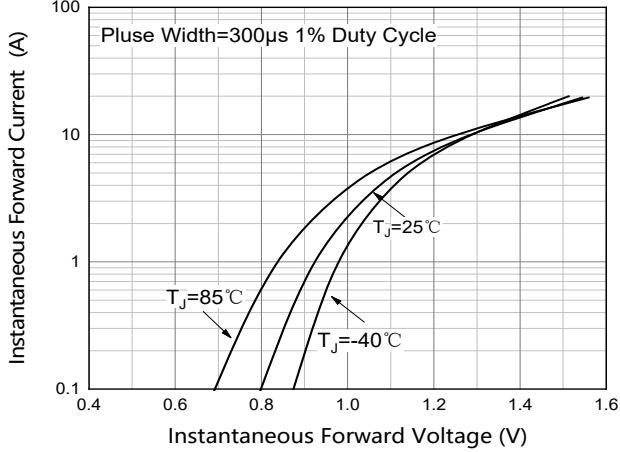


Fig.4 - Typical Reverse Leakage Characteristics

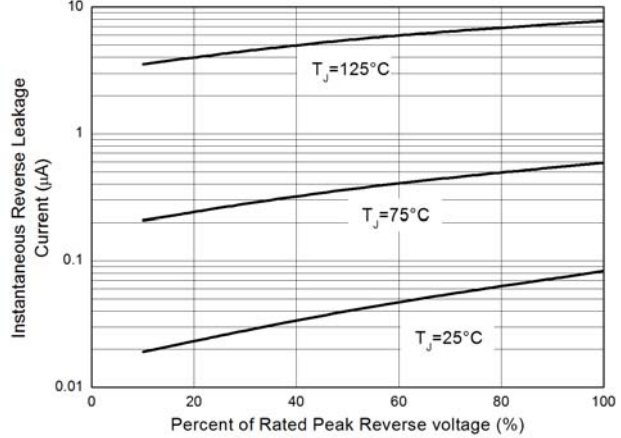
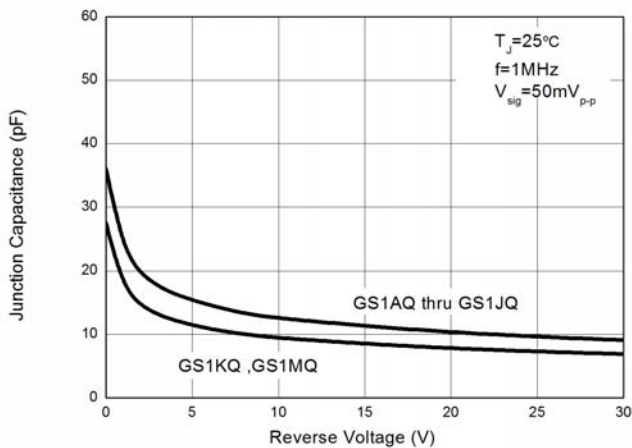


Fig.5 - Typical Junction Capacitance





GS1AQ THRU GS1MQ

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ	
Thermal Resistance	R _{θJ-A(1)}	°C/W	75 ¹⁾						85 ¹⁾	
	R _{θJ-L(1)}	°C/W	27 ¹⁾						30 ¹⁾	

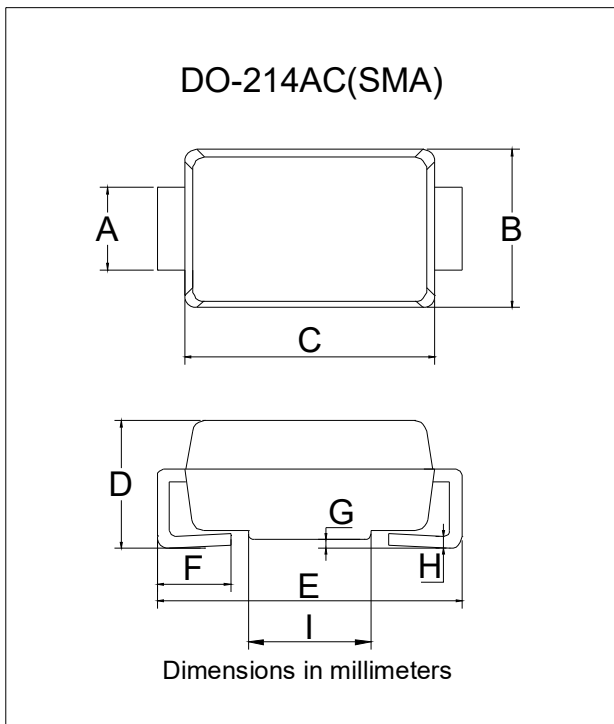
Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■ Ordering Information (Example)

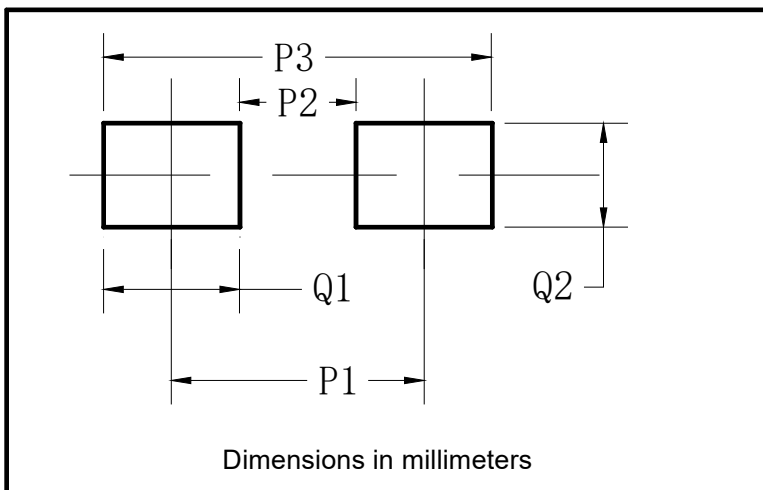
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GS1AQ- GS1MQ	F2	Approximate 0.067	7500	/	120000	13" reel

■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.7	2.1

■ Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



GS1AQ THRU GS1MQ

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