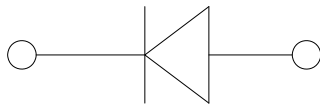
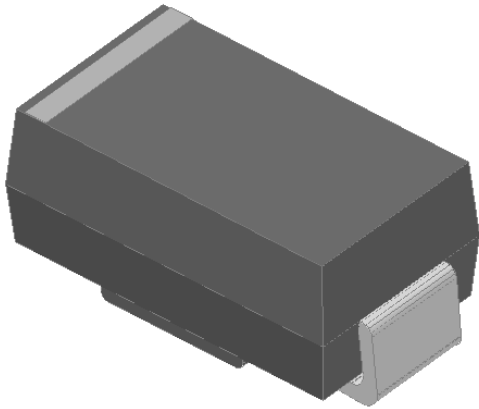


## Surface Mount General Purpose Rectifier



### 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 (Ta=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, Ta (Fig.1)	$I_o$	A	1.0						
Surge(non-repetitive)forward current @ 60Hz Half-sine wave, 1 cycle, Ta=25°C	$I_{FSM}$	A	40						
Current squared time @1ms≤t≤8.3ms TJ=25°C, Rating of per diode	$I^2t$	A <sup>2</sup> S	6.64						
Storage temperature	$T_{stg}$	°C	-55~+150						
Junction temperature	$T_J$	°C	-55 ~ +150						



# GS1AQ THRU GS1MQ

## ■Electrical Characteristics (T<sub>a</sub>=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 <sub>F</sub>	V	I <sub>FM</sub> =1.0A	1.1						
Typical junction capacitance	C <sub>J</sub>	pF	4V, 1 MHz	16					12	
Maximum DC reverse current at rated DC blocking voltage per diode @ V <sub>RM</sub> =V <sub>RRM</sub>	I <sub>RRM</sub>	μA	T <sub>a</sub> =25°C	5						
			T <sub>a</sub> =125°C	50						

## ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

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

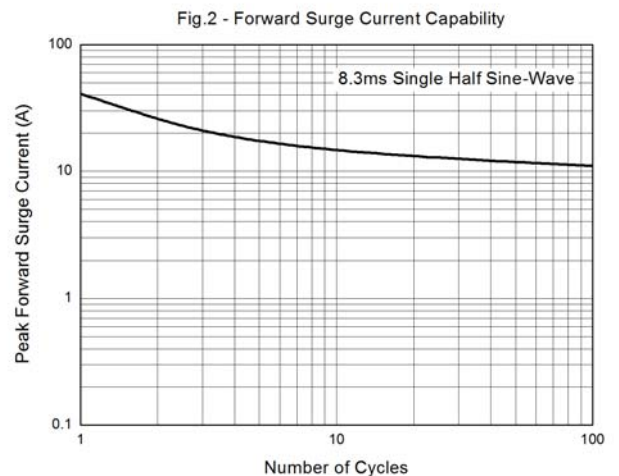
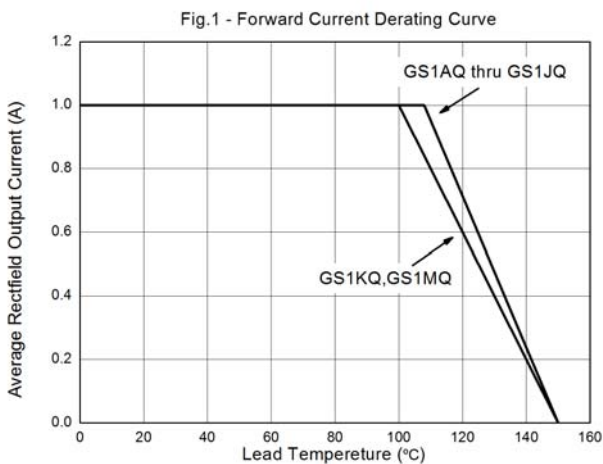
Note

(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

## ■ Characteristics (Typical)





# GS1AQ THRU GS1MQ

Fig.3-Typical Forward Characteristics

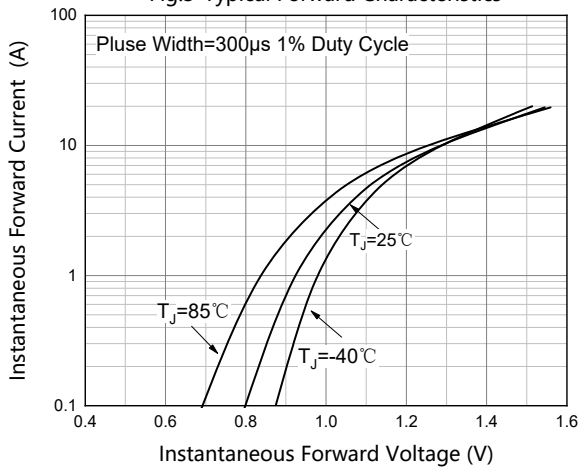


Fig.4 - Typical Reverse Leakage Characteristics

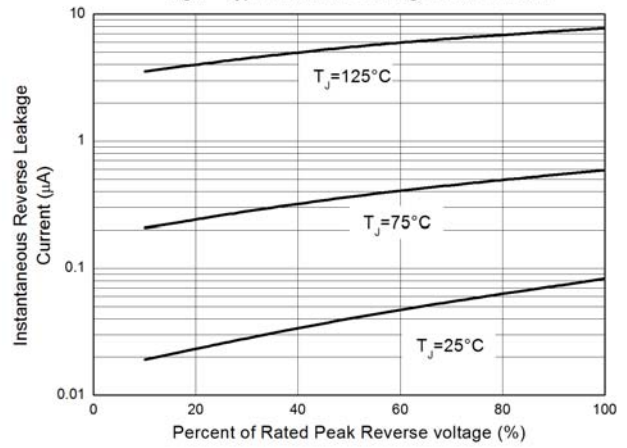
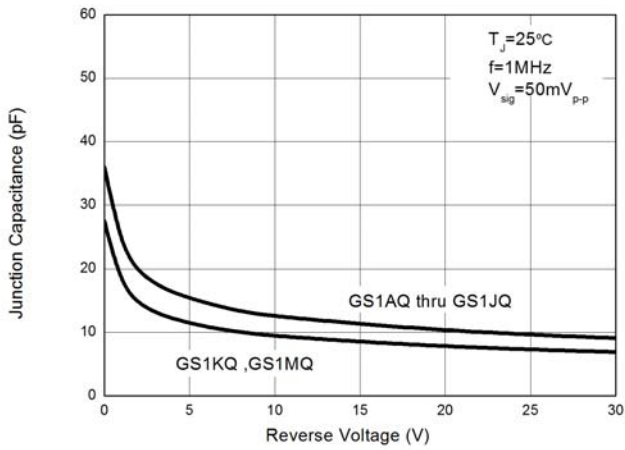


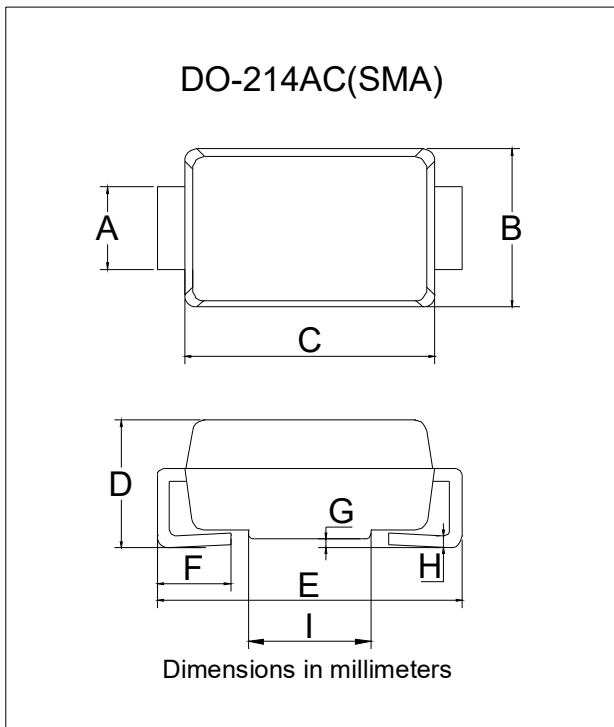
Fig.5 - Typical Junction Capacitance





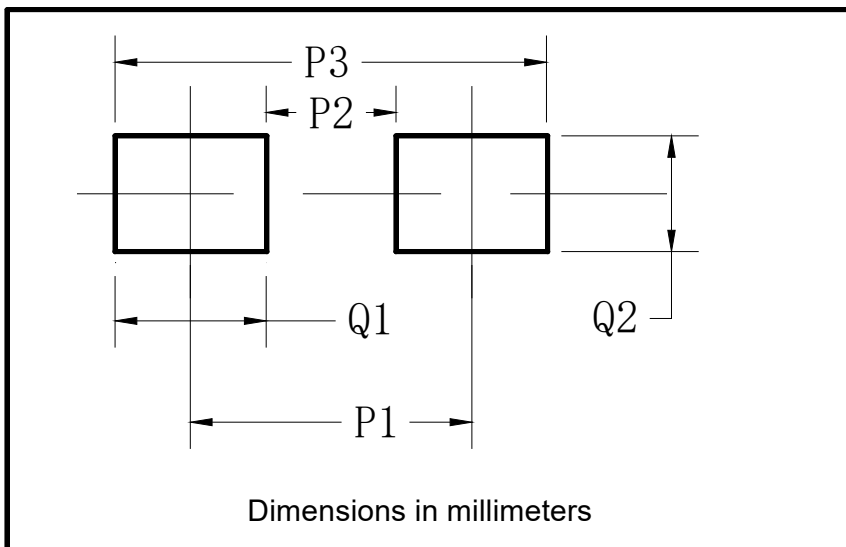
# GS1AQ THRU GS1MQ

## ■ 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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