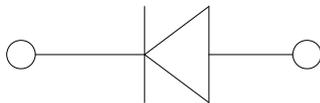
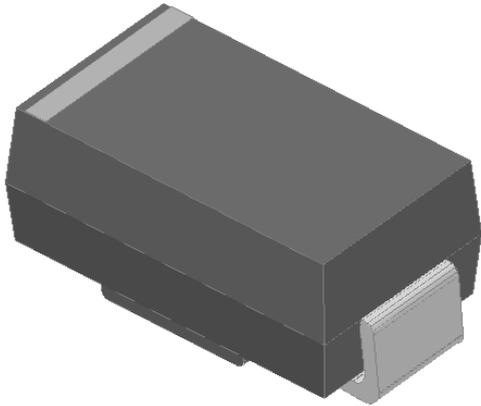


## Surface Mount General Purpose Rectifier



### 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<sub>a</sub>=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 <sub>RRM</sub>	V	50	100	200	400	600	800	1000	
Maximum RMS voltage	V <sub>RMS</sub>	V	35	70	140	280	420	560	700	
Maximum DC blocking voltage	V <sub>DC</sub>	V	50	100	200	400	600	800	1000	
Average rectified output current (Fig.1)	I <sub>O</sub>	A	1.0							
Surge(non-repetitive)forward current @ 8.3ms single half sine-wave, 1 cycle, T <sub>J</sub> =25°C	I <sub>FSM</sub>	A	40							
Current squared time @ 1ms≤t≤8.3ms T <sub>J</sub> =25°C, Rating of per diode	I <sup>2</sup> t	A <sup>2</sup> S	6.64							
Storage temperature	T <sub>stg</sub>	°C	-55~ +175					-55~ +150		
Junction temperature	T <sub>J</sub>	°C	-55 ~ +175					-55 ~ +150		

### ■ 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>J</sub> =25°C	5							
			T <sub>J</sub> =125°C	50							



# GS1AQ THRU GS1MQ

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

PARAMETER	SYMBOL	UNIT	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ	
Typical 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)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GS1AQ- GS1MQ	F2	Approximate 0.067	7500	120000	13" reel

## ■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

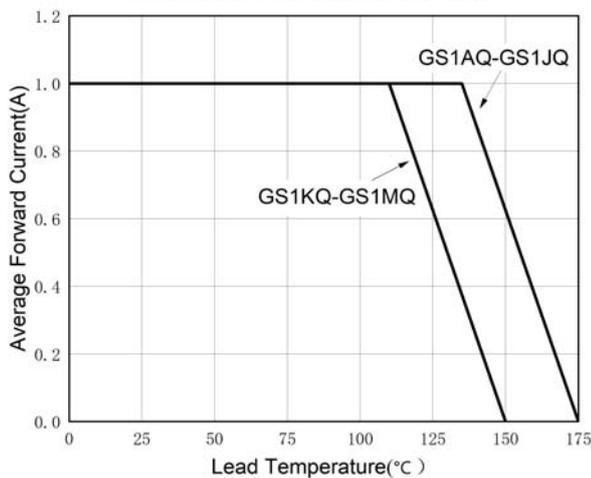


Fig.2: Forward Surge Current Capability

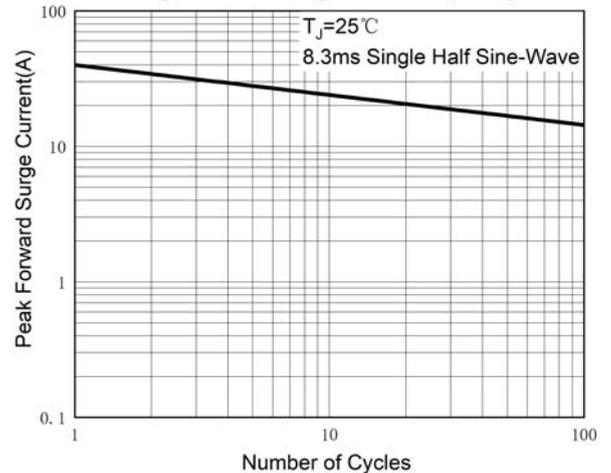


Fig.3: Typical Forward Characteristics

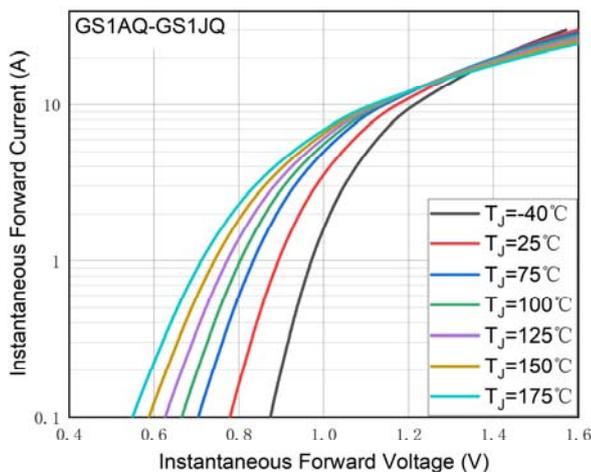
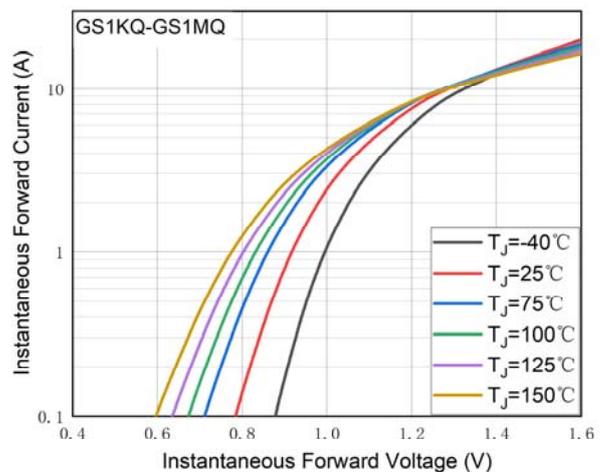


Fig.4: Typical Forward Characteristics





# GS1AQ THRU GS1MQ

Fig.5 Typical Reverse Leakage Characteristics

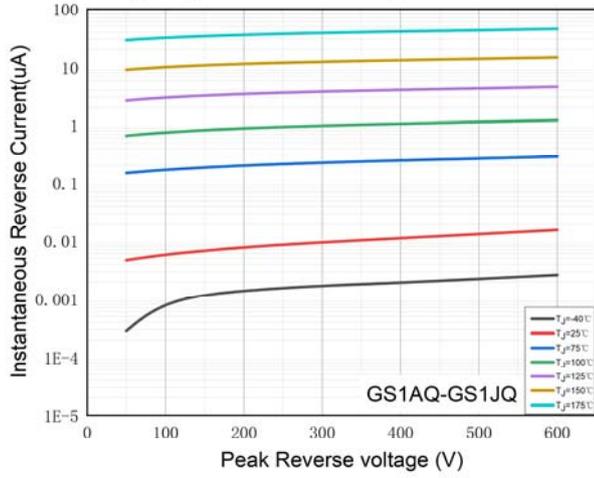


Fig.6 Typical Reverse Leakage Characteristics

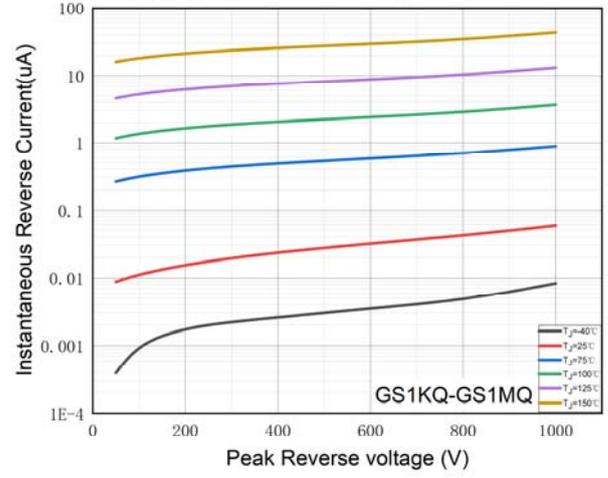
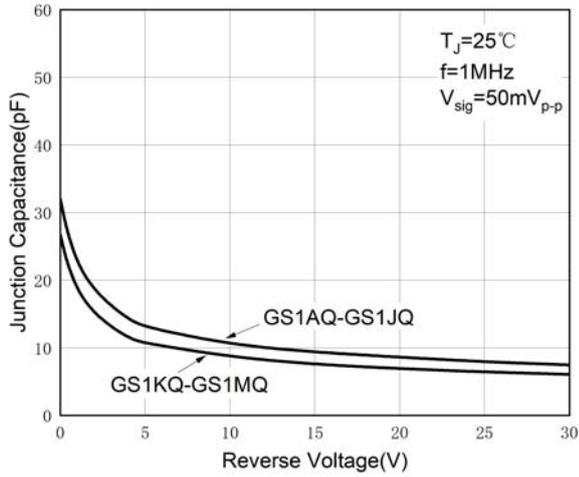


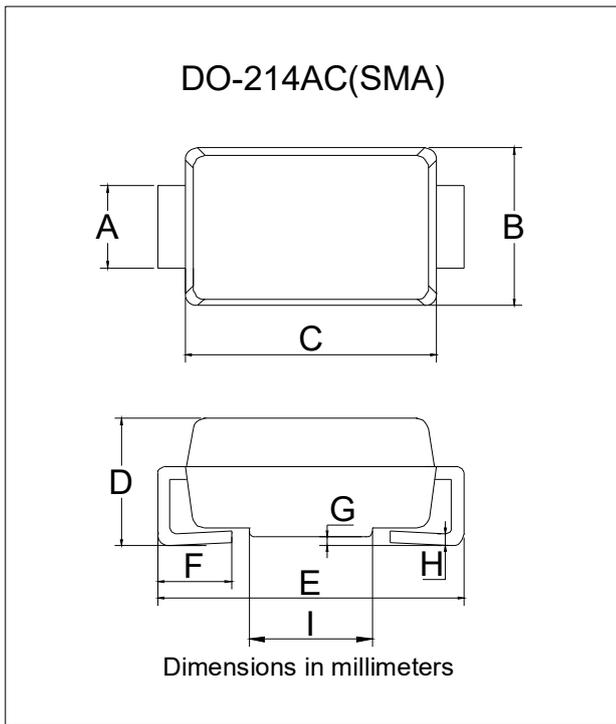
Fig.7: Typical Junction Capacitance





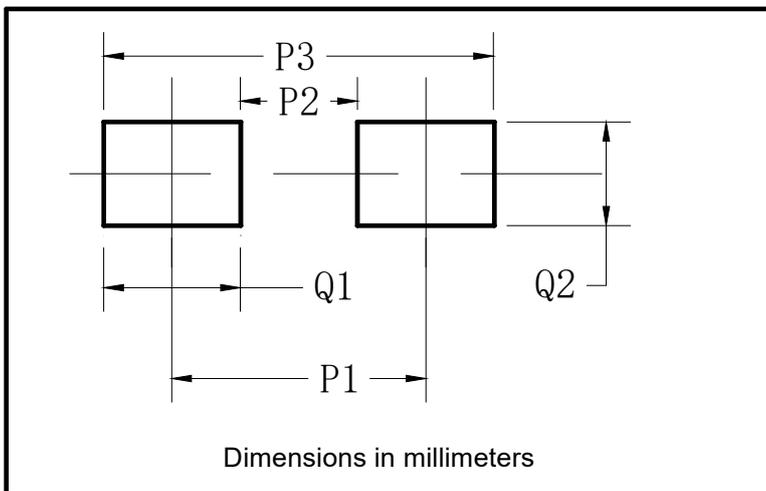
# GS1AQ THRU GS1MQ

## ■ 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

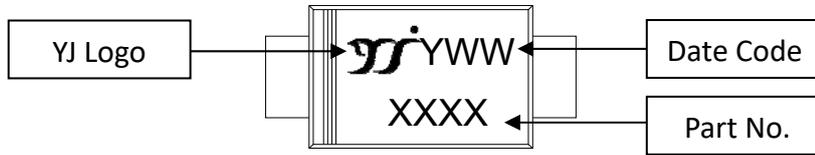


DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



## GS1AQ THRU GS1MQ

### ■ Marking Information



**Note:**

1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXXX is marking code, like GS1MQ marking code is GS1M.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17<sup>th</sup> week of 2019, date code is 917

The 17<sup>th</sup> week of 2020, date code is 017



## GS1AQ THRU GS1MQ

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