

## Surface Mount Fast Recovery Rectifier

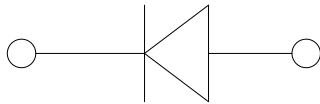


### Features

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

### Typical Applications

For use in fast switching rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, 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	GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M
Device marking code			GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M
Repetitive peak reverse voltage	VRRM	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, T <sub>a</sub> (FIG.1)	I <sub>O</sub>	A	1.0						
Surge(non-repetitive)forward current @ 60Hz Half-sine wave,1 cycle, T <sub>a</sub> =25°C	IFSM	A	30						
Storage temperature	T <sub>stg</sub>	°C	-55~+150						
Junction temperature	T <sub>j</sub>	°C	-55 ~ +150						

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	I <sub>FM</sub> =1.0A	1.3						
Maximum reverse recovery time	T <sub>RR</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>r</sub> =0.25A	150			250		500	
Maximum DC reverse current at rated DC blocking voltage per diode@ VRM=VRRM	IRRM	μA	T <sub>a</sub> =25°C	5						
			T <sub>a</sub> =125°C	100						



# GR1A THRU GR1M

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

PARAMETER	SYMBOL	UNIT	GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M
Thermal Resistance	R <sub>θJ-A</sub>	°C/W	75 <sup>1)</sup>						
	R <sub>θJ-L</sub>		22 <sup>1)</sup>						
	R <sub>θJ-C</sub>		20 <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

## ■ Characteristics (Typical)

FIG.1: IO-TL Curve

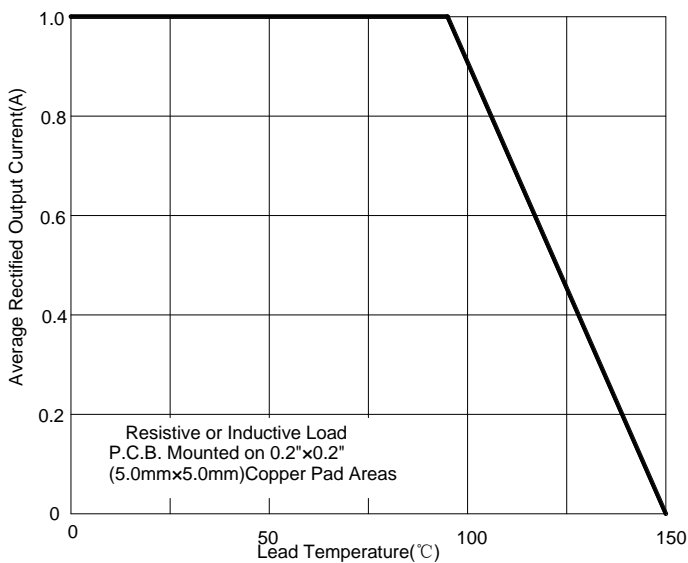


FIG2: Surge Forward Current Capability

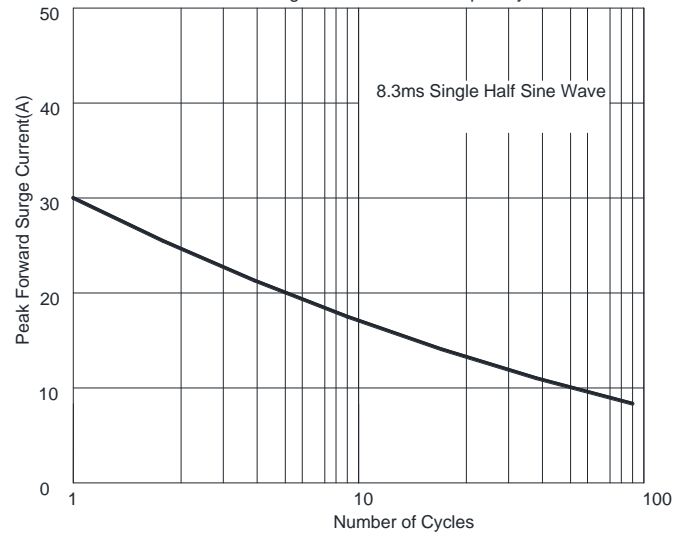


FIG.3: TYPICAL FORWARD CHARACTERISTICS

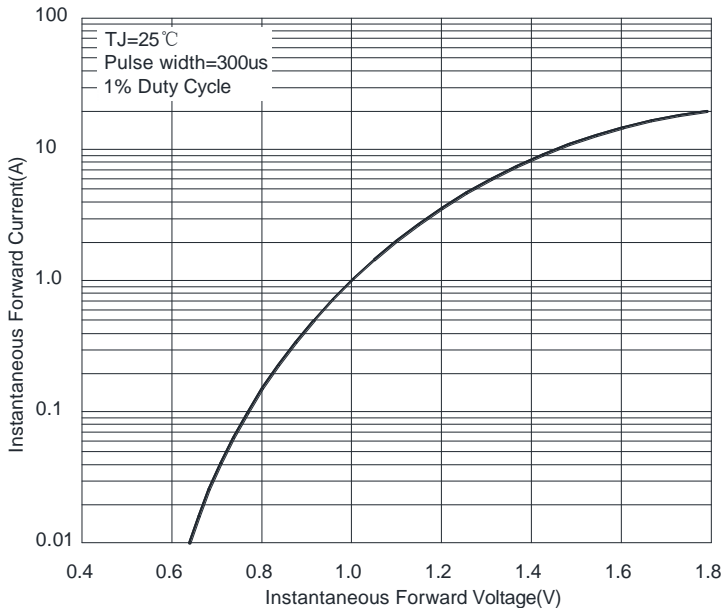
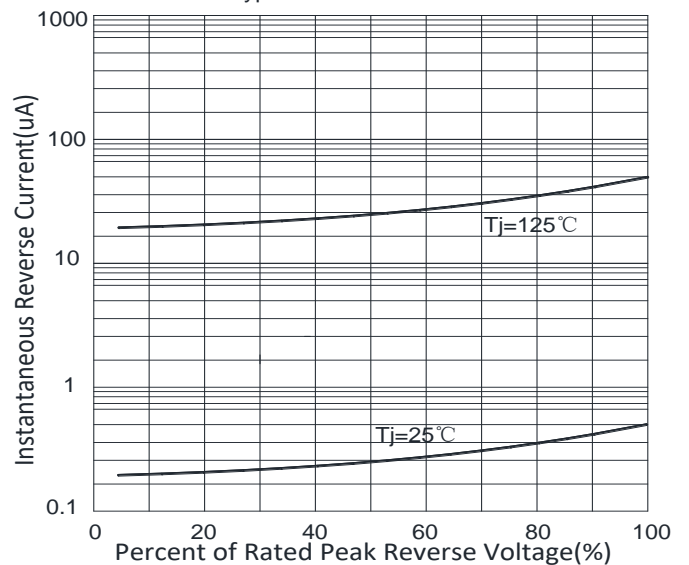


FIG4: Typical Reverse Characteristics



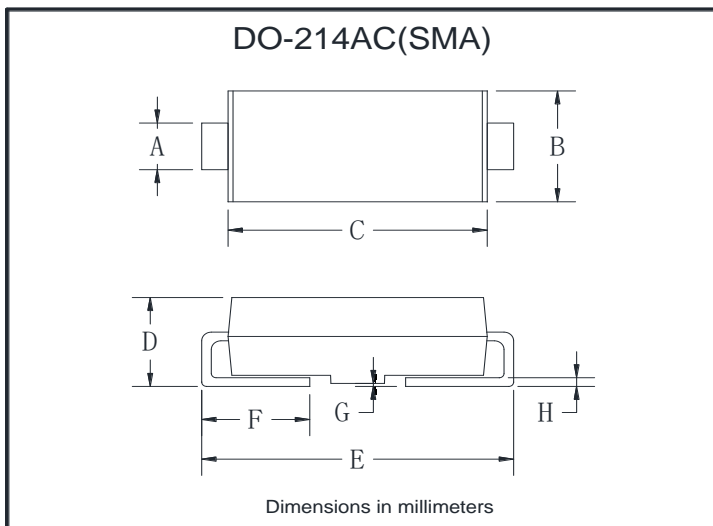


# GR1A THRU GR1M

## Ordering Information (Example)

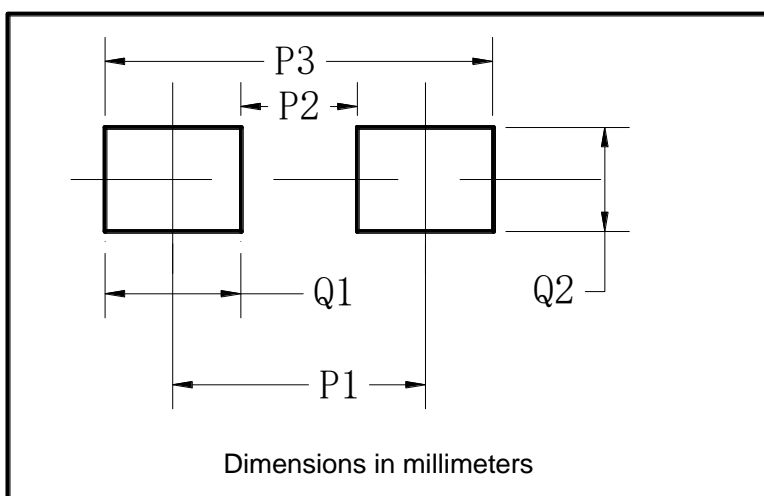
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GR1A-GR1M	F1	Approximate 0.059	5000	10000	80000	13" reel
GR1A-GR1M	F2	Approximate 0.059	7500	15000	120000	13" reel
GR1A-GR1M	F3	Approximate 0.059	7500	15000	60000	13" reel
GR1A-GR1M	F4	Approximate 0.059	1800	7200	57600	7" reel
GR1A-GR1M	F5	Approximate 0.059	2000	8000	64000	7" reel
GR1A-GR1M	F6	Approximate 0.059	5000	10000	100000	13" reel

## Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.25	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.08	0.20
H	0.15	0.31

## Suggested Pad Layout



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



## GR1A THRU GR1M

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