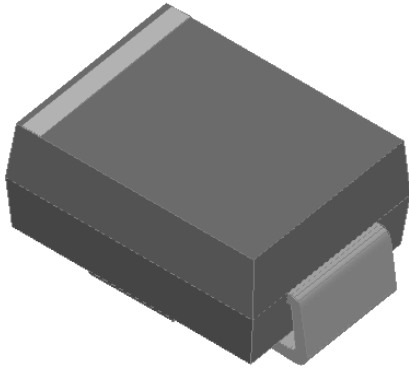


Surface Mount Fast Recovery Rectifier

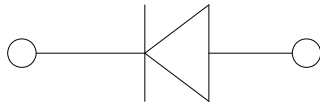


Features

- 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
- 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-214AA (SMB)
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	GR2AQ	GR2BQ	GR2DQ	GR2GQ	GR2JQ	GR2KQ	GR2MQ
Device marking code			GR2A	GR2B	GR2D	GR2G	GR2J	GR2K	GR2M
Maximum 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 _L (Fig.1)	I _O	A	2.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _J =25°C	I _{FSM}	A	50						
Storage temperature	T _{stg}	°C	-55 ~ +150						
Junction temperature	T _J	°C	-55 ~ +150						



GR2AQ THRU GR2MQ

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

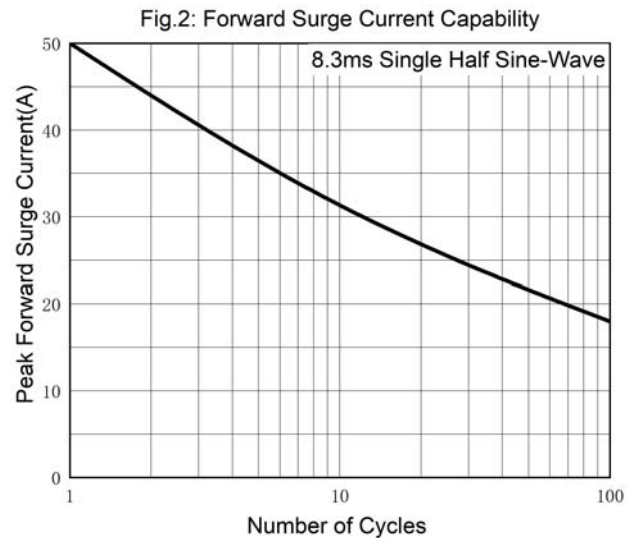
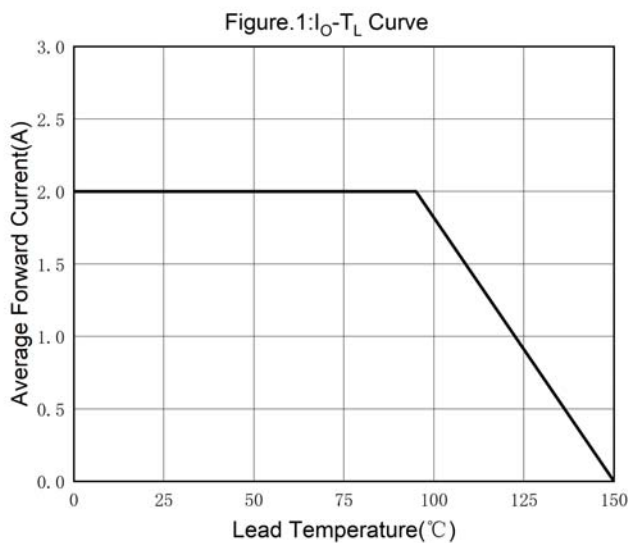
PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	GR2AQ	GR2BQ	GR2DQ	GR2GQ	GR2JQ	GR2KQ	GR2MQ
Maximum instantaneous forward voltage	V _F	V	I _{FM} =2.0A	1.3						
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	150				250	500	
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _J =25°C	5.0						
			T _J =125°C	100						
Typical junction capacitance	C _j	pF	V _R =4V, f=1 MHz	35				25	20	

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

PARAMETER	SYMBOL	UNIT	GR2AQ	GR2BQ	GR2DQ	GR2GQ	GR2JQ	GR2KQ	GR2MQ
Typical Thermal Resistance	R _{θJA} ⁽¹⁾	°C/W	72						
	R _{θJL} ⁽¹⁾		20						

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)





GR2AQ THRU GR2MQ

Fig.3: Typical Instantaneous Forward Characteristics

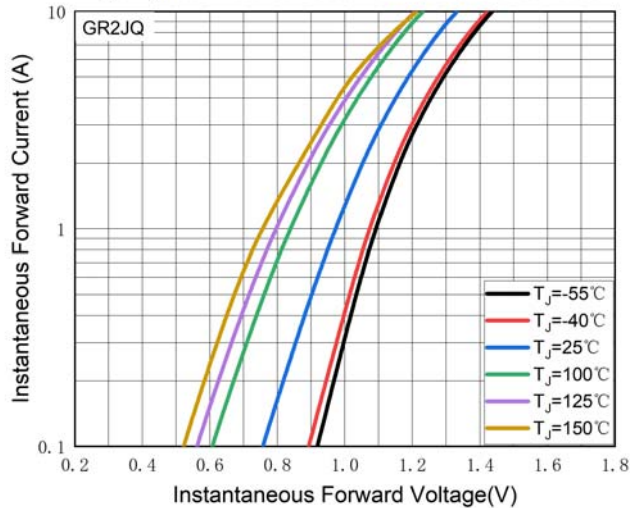


Fig.4: Typical Reverse Leakage Characteristics

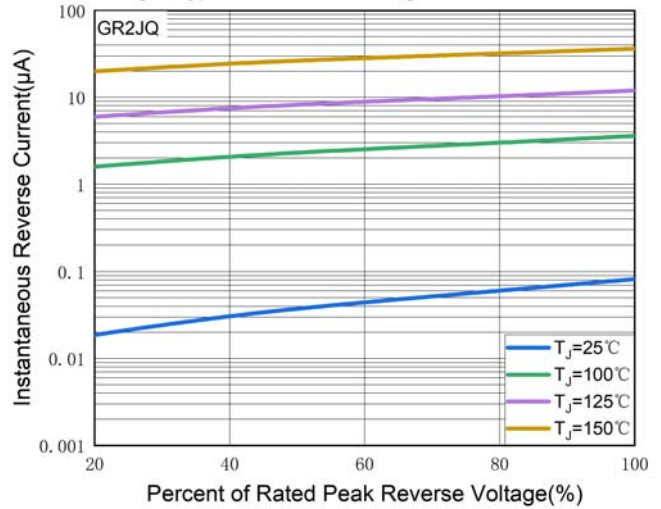


Fig.5: Typical Instantaneous Forward Characteristics

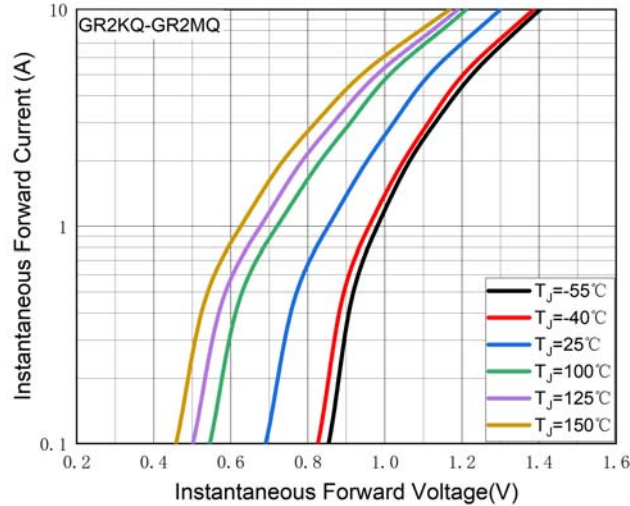


Fig.6: Typical Reverse Leakage Characteristics

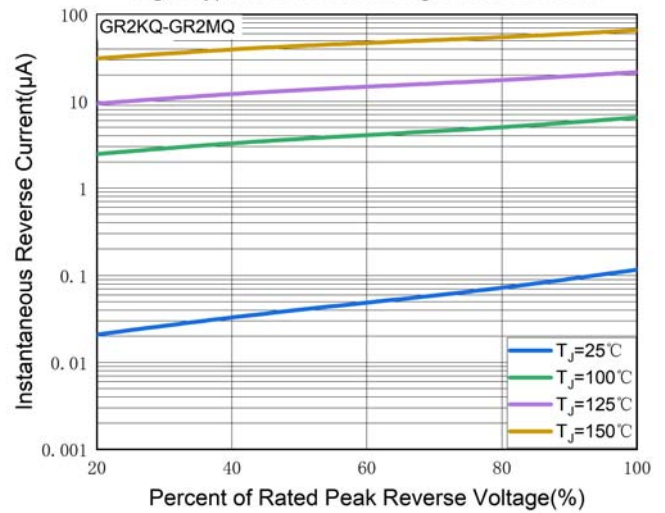
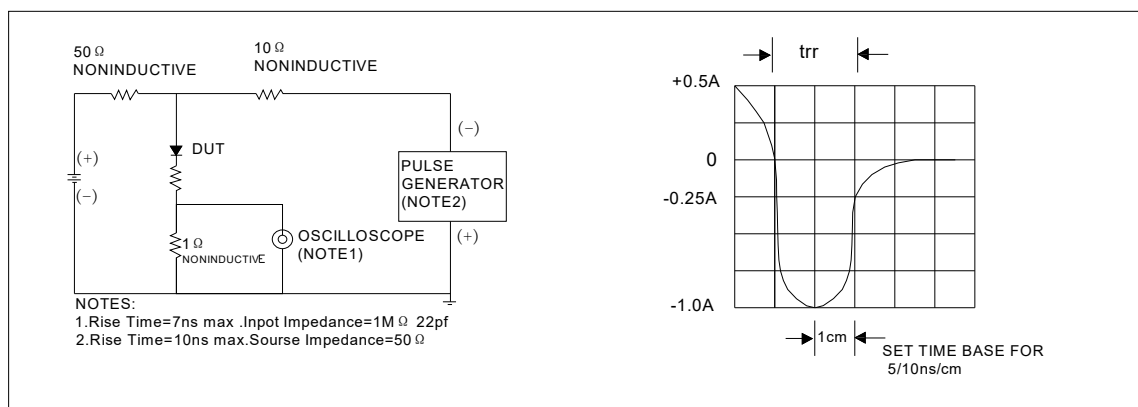


FIG.7: Diagram of circuit and Testing wave form of reverse recovery time



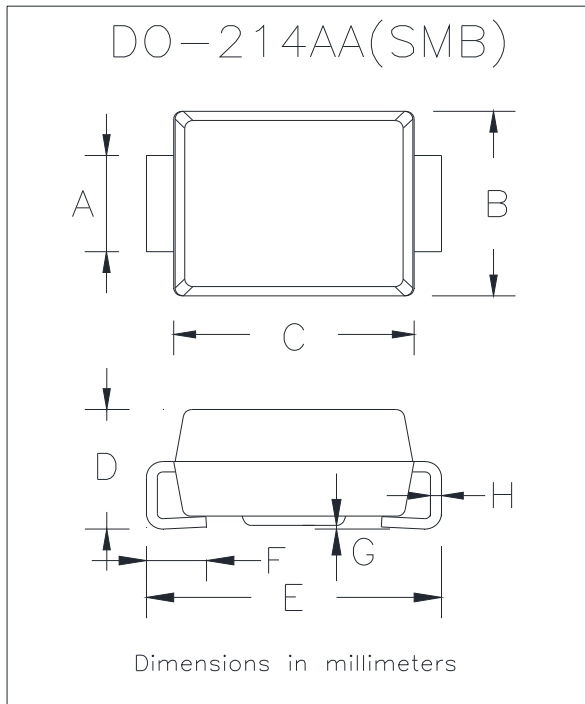


GR2AQ THRU GR2MQ

■ Ordering Information (Example)

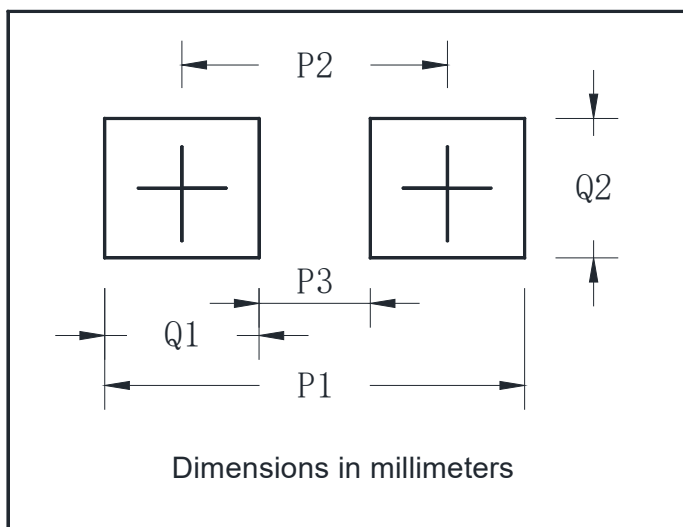
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GR2AQ-GR2MQ	F1	Approximate 0.1003	3000	48000	13" reel

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31

■ Suggested pad layout

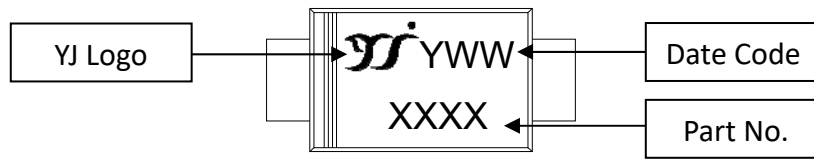


DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3



GR2AQ THRU GR2MQ

■ 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 GR2MQ marking code is GR2M.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2024, date code is 417

The 17th week of 2025, date code is 517



GR2AQ THRU GR2MQ

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.