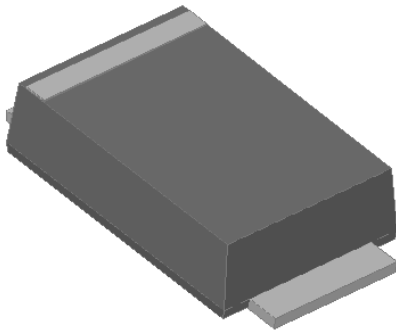


Surface Mount General Purpose Rectifier

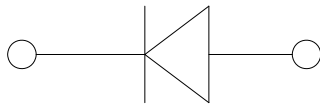


Features

- 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:** SMAF
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	G1AFQ	G1BFQ	G1DFQ	G1GFQ	G1JFQ	G1KFQ	G1MFQ
Device marking code			G1AF	G1BF	G1DF	G1GF	G1JF	G1KF	G1MF
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
Average rectified output current @60Hz sine wave, Resistance load	I _O	A	1.0						
Surge(non-repetitive)forward current @ 60Hz half-sine wave, 1 cycle, T _J =25°C	I _{FSM}	A	40						
Current Squared Time @1ms≤t<8.3ms T _J =25°C	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	G1AFQ	G1BFQ	G1DFQ	G1GFQ	G1JFQ	G1KFQ	G1MFQ	
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	1.1							
Typical junction capacitance	C _J	pF	V _R =4V, 1 MHz	16						12	
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM}	μA	Ta=25°C	5							
			Ta=125°C	50							



G1AFQ THRU G1MFQ

■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

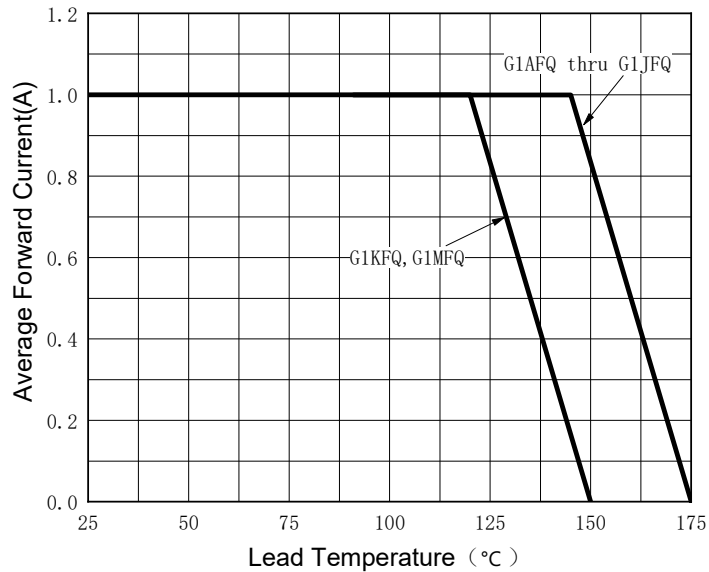


Fig.2: Surge Forward Current Capability

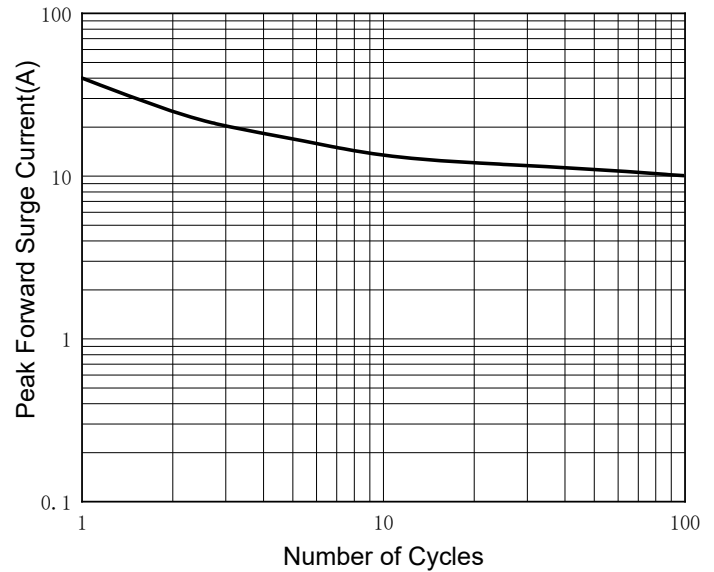


Fig.3-Typical Forward Characteristics

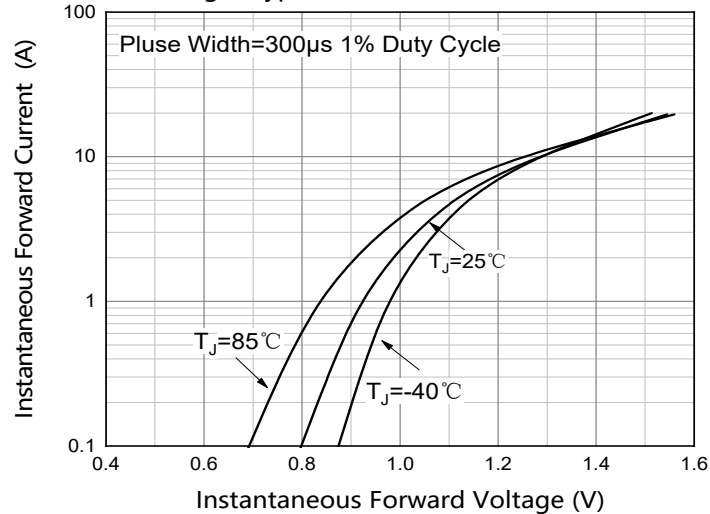
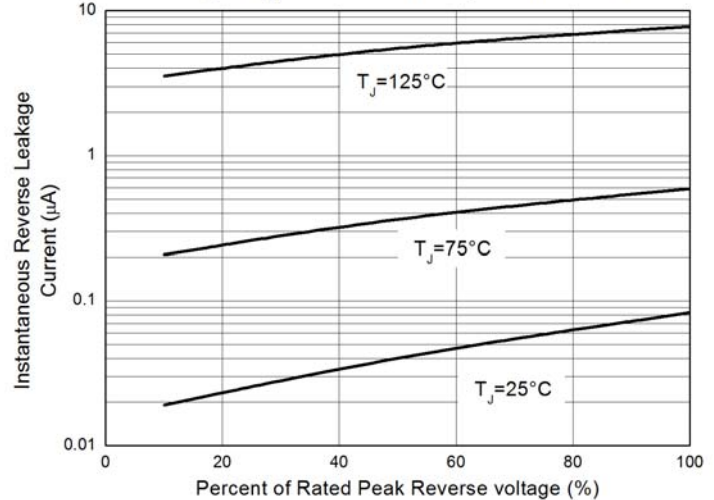


Fig.4 - Typical Reverse Leakage Characteristics



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

PARAMETER	SYMBOL	UNIT	G1AFQ	G1BFQ	G1DFQ	G1GFQ	G1JFQ	G1KFQ	G1MFQ
Thermal resistance	$R_{\theta J-A}$	°C/W	65 ⁽¹⁾						
	$R_{\theta J-L}$		20 ⁽¹⁾						

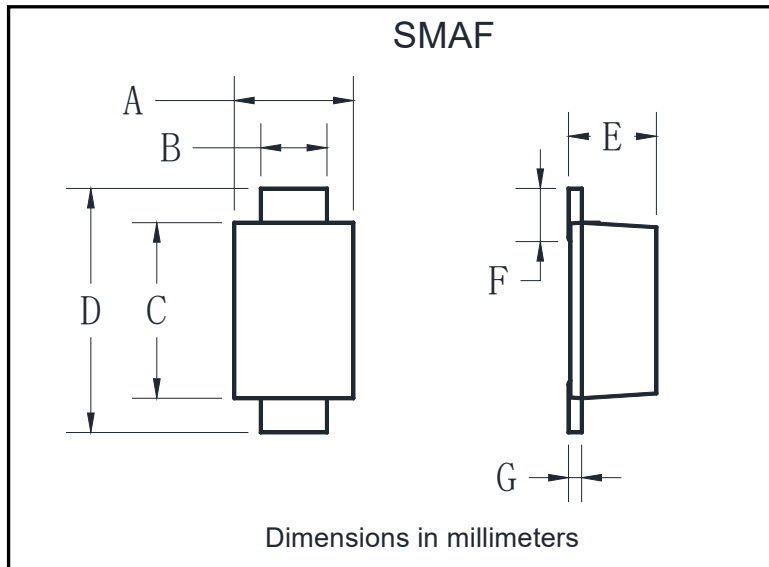
Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 5 mm x 5 mm copper pad areas.



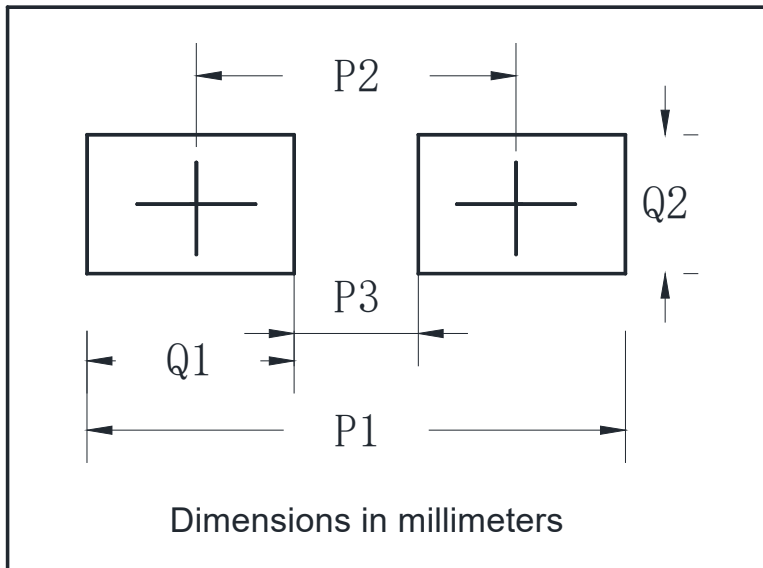
G1AFQ THRU G1MFQ

■ Outline Dimensions



SMAF		
Dim	Min	Max
A	2.40	2.80
B	1.35	1.45
C	3.40	3.60
D	4.40	4.80
E	1.05	1.25
F	0.50	1.00
G	0.16	0.25

■ Suggested pad layout



SMAF	
Dim	Millimeters
P1	6.50
P2	4.00
P3	1.50
Q1	2.50
Q2	1.70

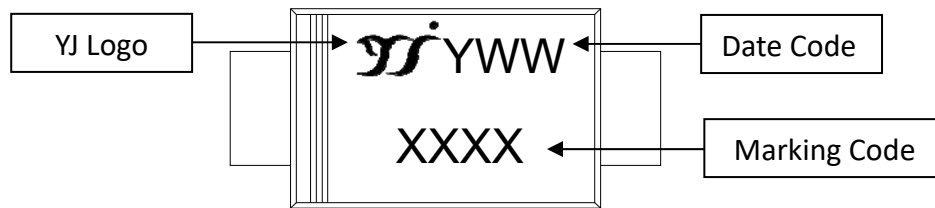
■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
G1AFQ~G1MFQ	F1	Approximate 0.034	3000	96000	7" reel



G1AFQ THRU G1MFQ

■ 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 G1MFQ marking code is G1MF.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2022, date code is 217
The 17th week of 2023, date code is 317



G1AFQ THRU G1MFQ

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