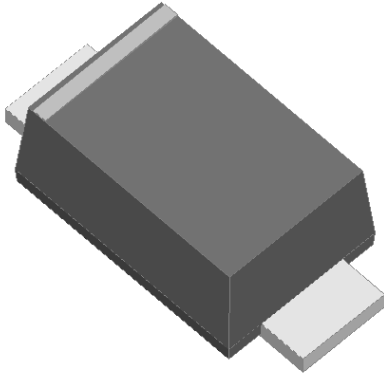


Surface Mount General Purpose Rectifier

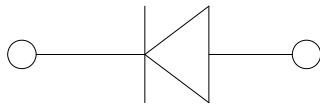


Features

- 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:** SOD-123FL
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	G1AQ	G1BQ	G1DQ	G1GQ	G1JQ	G1KQ	G1MQ
Device marking code			G1A	G1B	G1D	G1G	G1J	G1K	G1M
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 average forward rectified current at T _L (Fig.1)	I _{F(AV)}	A	1.0						
Surge(non-repetitive)forward current @ 60Hz half-sine wave,1 cycle, T _J =25°C	I _{FSM}	A	30						
Current Squared Time @1ms≤t<8.3ms T _J =25°C	I ² t	A ² s	3.7						
Storage temperature	T _{STG}	°C	-55 ~+175					-55 ~+150	
Junction temperature	T _J	°C	-55 ~+175					-55 ~+150	
Power dissipation	P _d	W	1.42					1.19	

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	G1AQ	G1BQ	G1DQ	G1GQ	G1JQ	G1KQ	G1MQ
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	10						
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM}	μA	T _a =25°C	5						
			T _a =125°C	50						



G1AQ THRU G1MQ

■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TYP	MAX
Thermal Resistance	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	85 ¹⁾	105 ¹⁾
	$R_{\theta J-L}$		35 ¹⁾	45 ¹⁾
	$R_{\theta J-SP}$		17 ²⁾	20 ²⁾

Note:

- (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.
- (2) Thermal resistance between junction and cathode tab solder point.

■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

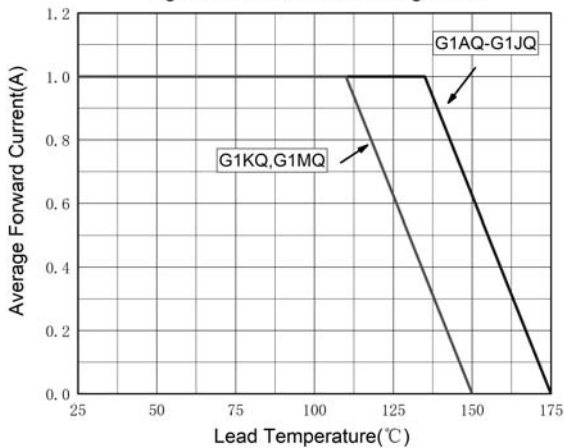


Fig.2:Forward Surge Current Capability

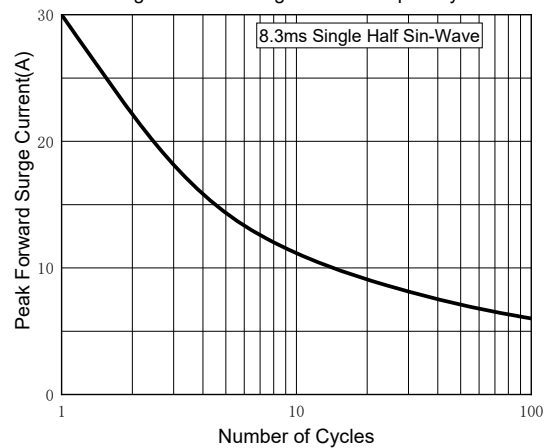


Fig.3:Typical Instantaneous Forward Characteristics

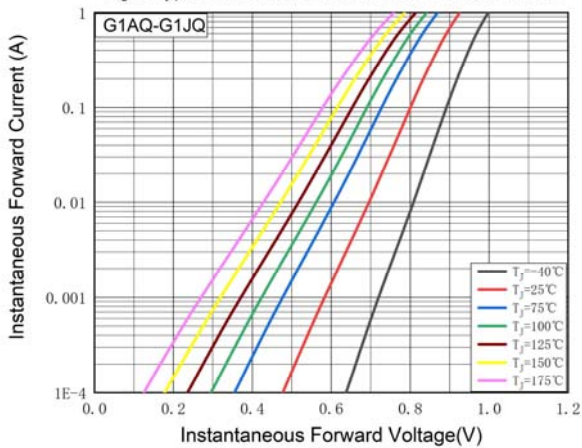


Fig.4:Typical Instantaneous Forward Characteristics

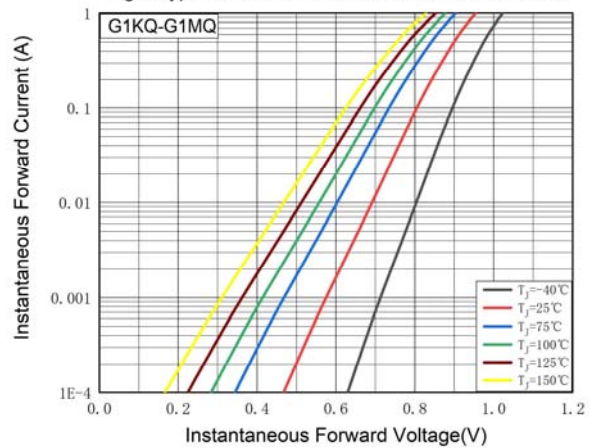


Fig.5:Typical Reverse Leakage Characteristics

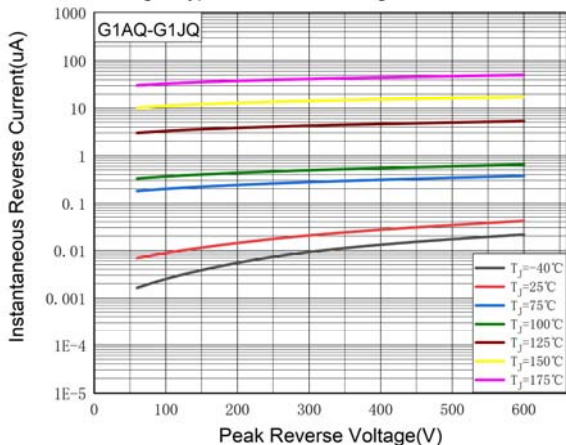


Fig.6:Typical Reverse Leakage Characteristics

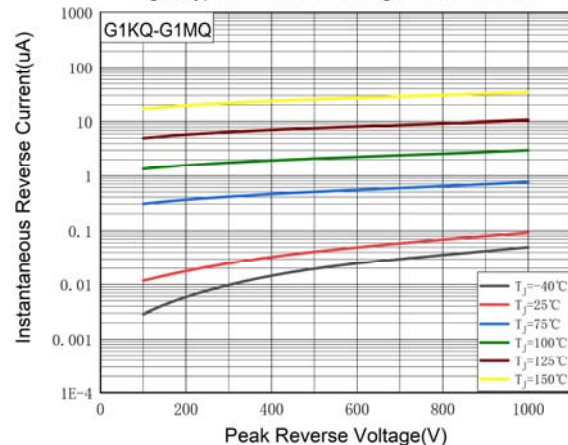
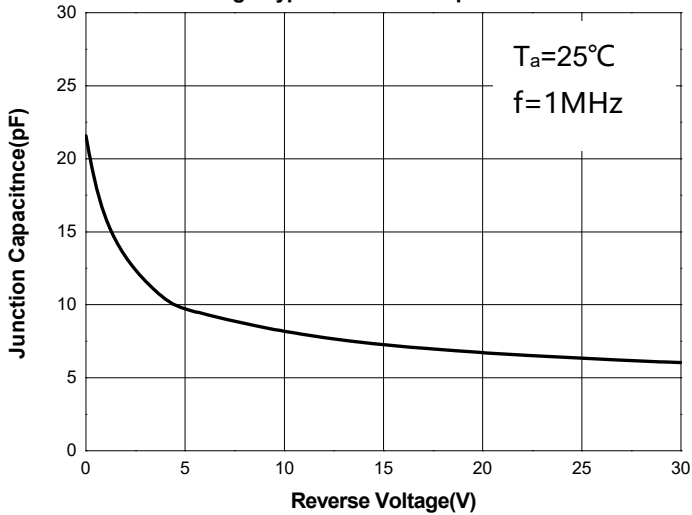
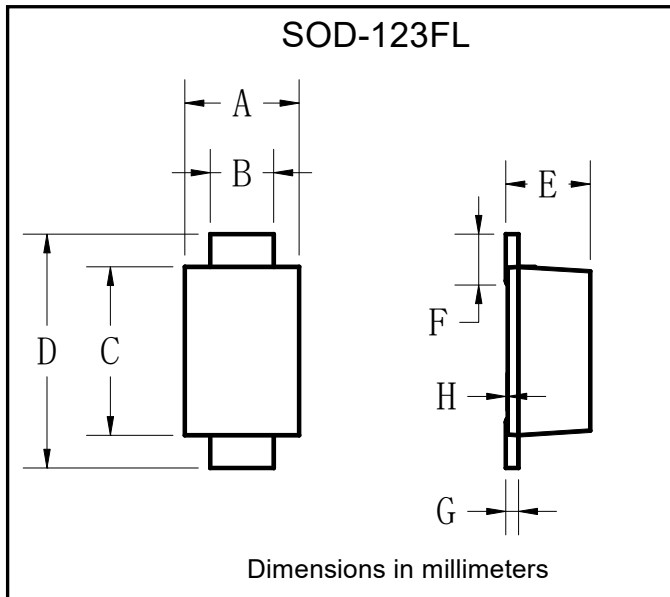


Fig5:Typical Junction Capacitance

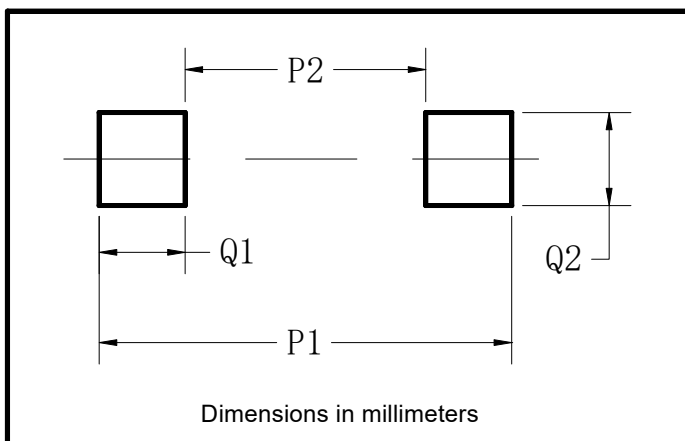


■ Outline Dimensions



SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	-	0.05

■ Suggested pad layout

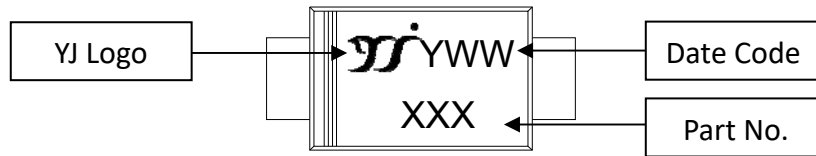


SOD-123FL	
Dim	Millimeters
P1	3.90
P2	1.90
Q1	1.00
Q2	1.50



G1AQ THRU G1MQ

■ 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 G1MQ marking code is G1M.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2019, date code is 917
The 17th week of 2020, date code is 017

■ Packing Information

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
G1AQ ~ G1MQ	F1	0.0169	3000	30000	120000	7" reel



G1AQ THRU G1MQ

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 automotive electronics, are not designed for use in medical, lifesaving, lifesustaining, or military. 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.