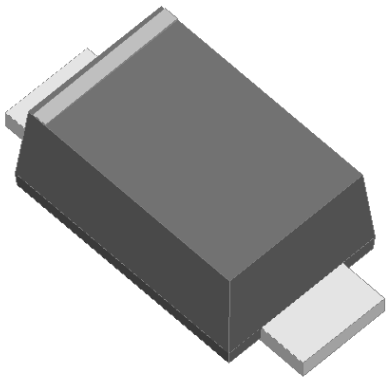
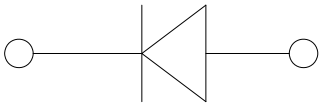
Surface Mount General Purpose Rectifier





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 Date

- **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 (Ta=25℃ 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℃	I_{FSM}	A	30						
Current Squared Time @1ms≤t<8.3ms T_J=25℃	I^2t	A^2s	3.7						
Storage temperature	T_{STG}	℃	-55 ~+175					-55 ~+150	
Junction temperature	T_J	℃	-55 ~+175					-55 ~+150	
Power dissipation	Pd	W	1.42					1.19	

■Electrical Characteristics（Ta=25℃ 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	Ta=25℃	5						
			Ta=125℃	50						

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TYP	MAX
Thermal Resistance	$R_{\theta J-A}$	℃/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

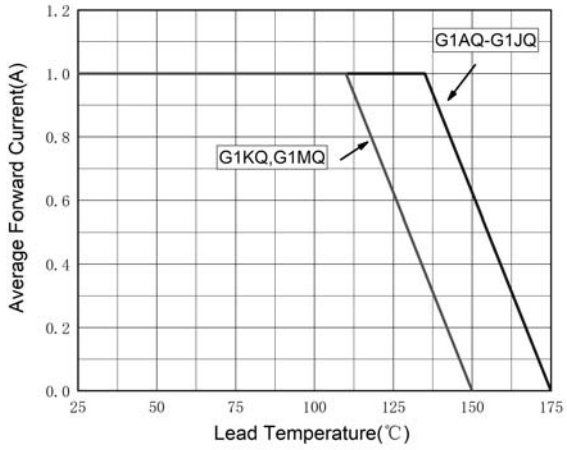


Fig.2:Forward Surge Current Capability

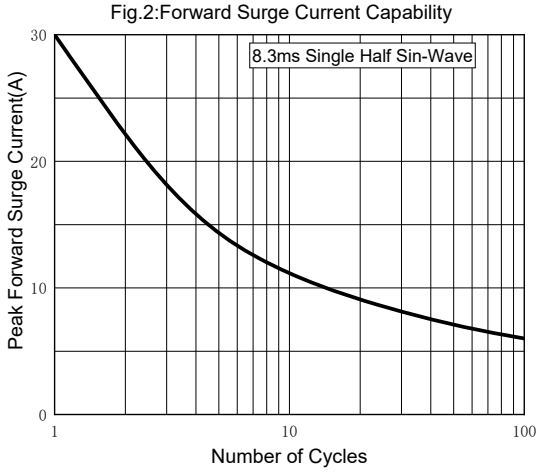


Fig.3:Typical Instantaneous Forward Characteristics

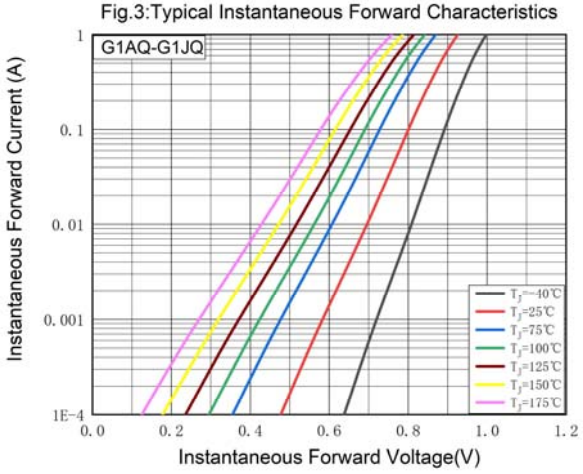


Fig.4:Typical Instantaneous Forward Characteristics

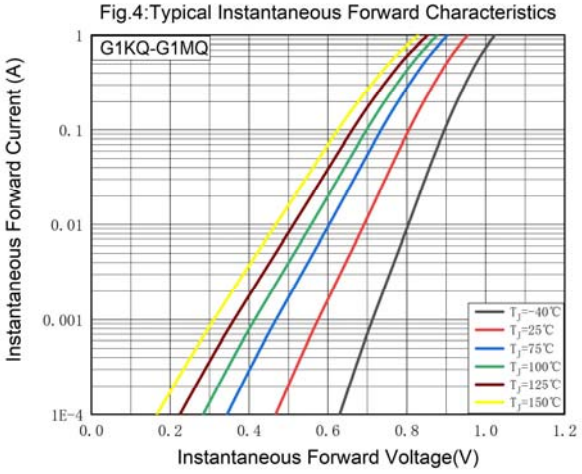


Fig.5:Typical Reverse Leakage Characteristics

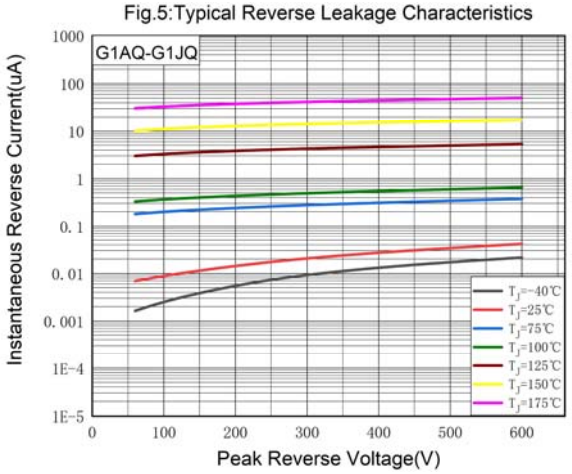


Fig.6:Typical Reverse Leakage Characteristics

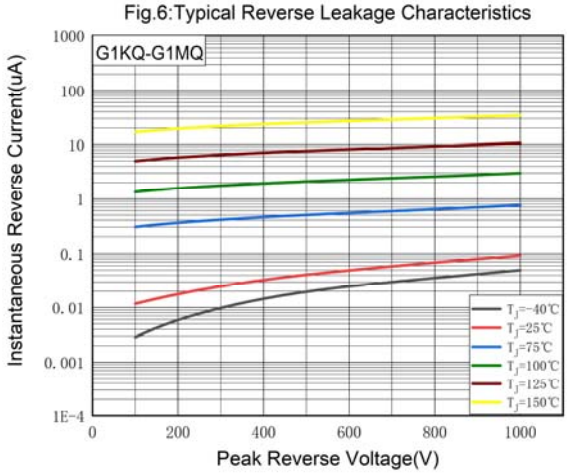
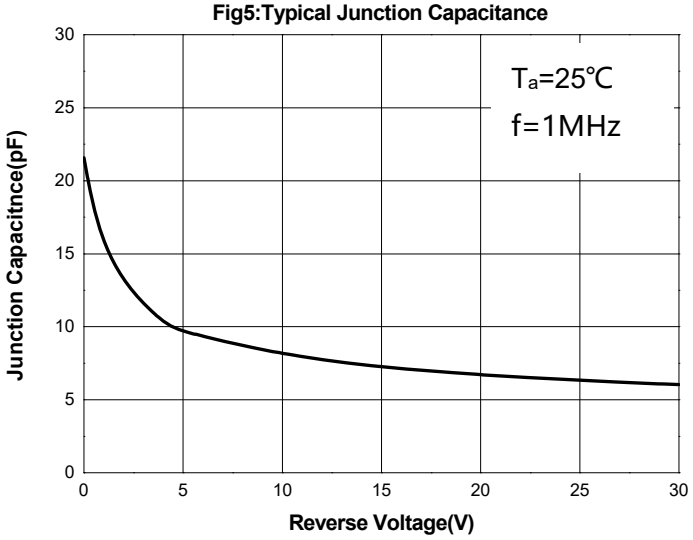
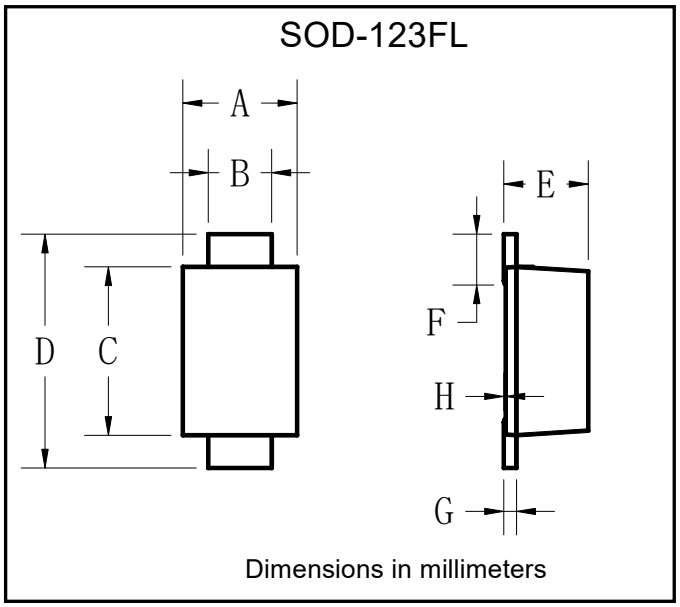


Fig5:Typical Junction Capacitance

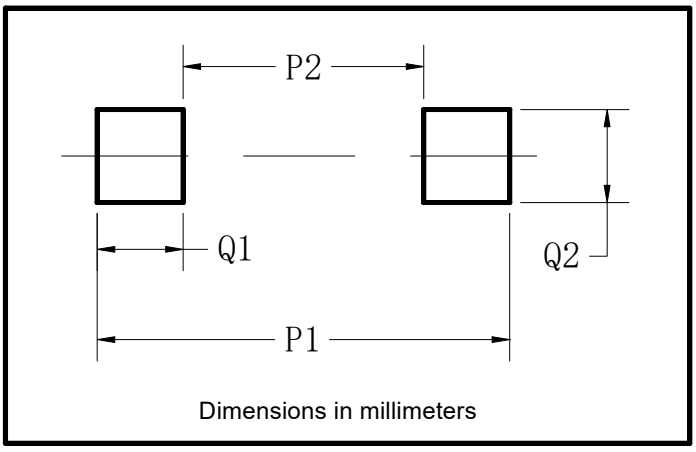


■ Outline Dimensions



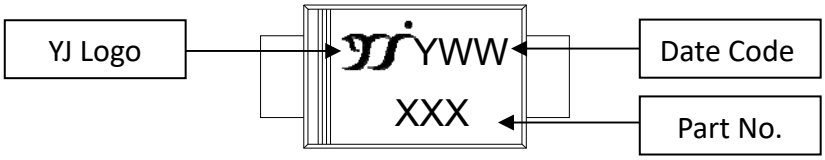
SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05

■ Suggested pad layout



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

■ 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

Disclaimer

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