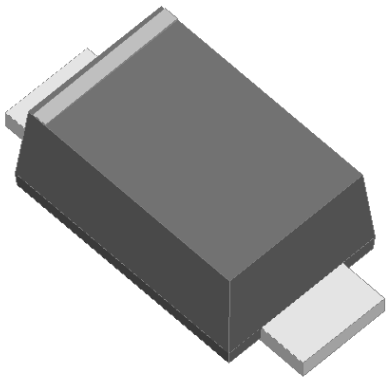
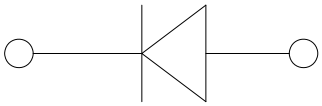
Surface Mount General Purpose Rectifier





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
Average rectified output current @60Hz sine wave, Resistance load, T_L (Fig 1)	I_O	A	1.0						
Surge(non-repetitive)forward current @ 60Hz half-sine wave,1 cycle, T_J=25℃	I_{FSM}	A	30						
Storage temperature	T_{STG}	℃	-55 ~+150						
Junction temperature	T_J	℃	-55 ~+150						

■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℃	100						

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

PARAMETER	SYMBOL	UNIT	G1AQ	G1BQ	G1DQ	G1GQ	G1JQ	G1KQ	G1MQ
Thermal resistance	$R_{\theta J-A}$	℃/W	70[1)]						
	$R_{\theta J-L}$		20[1)]						

Note：

（1） Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

■ Characteristics(Typical)

Fig1:Io-T_L Curve

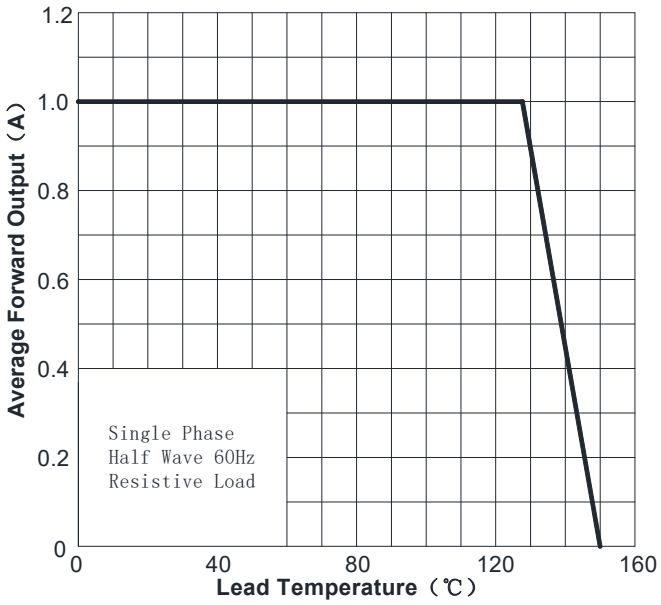


Fig2: Surge Forward Current Capability

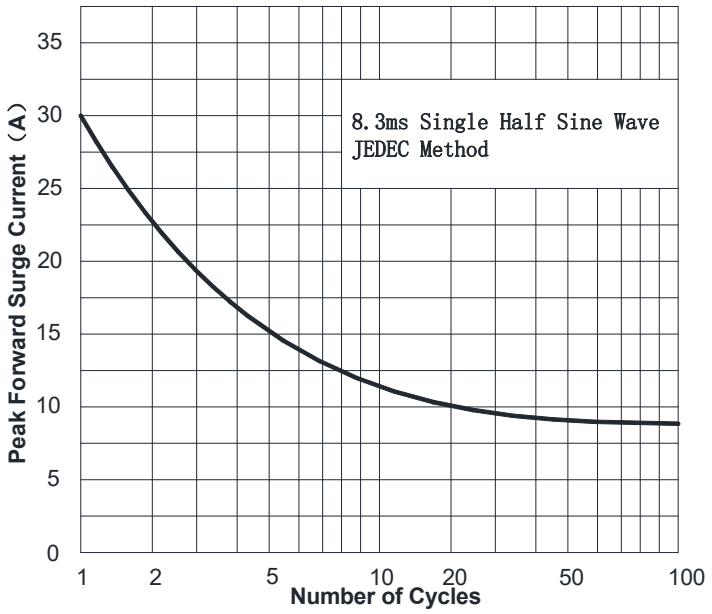


Fig3:Forward Voltage

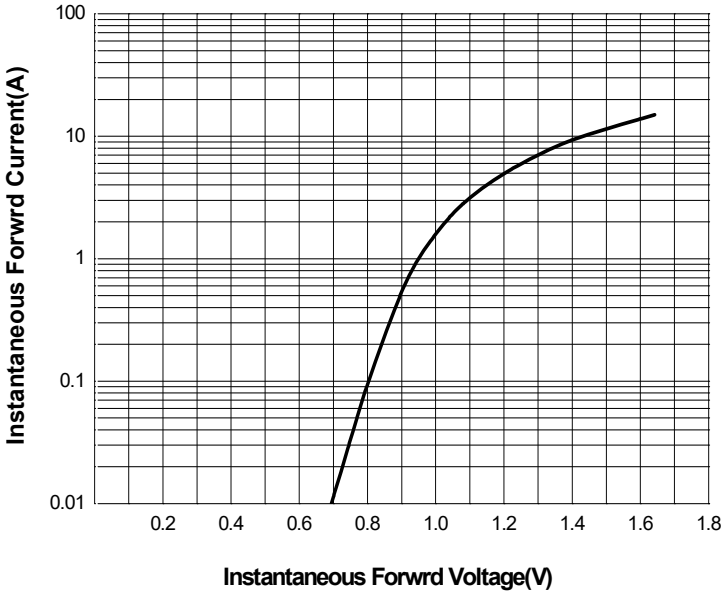


Fig4:Typical Reverse Characteristics

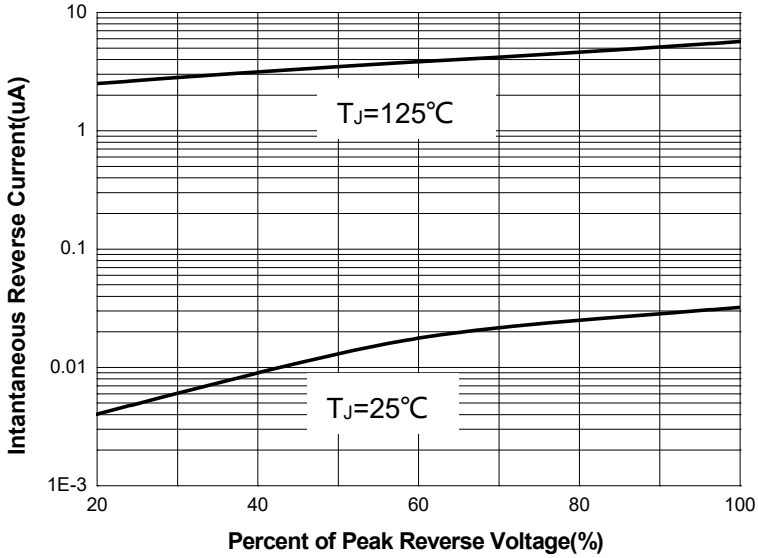
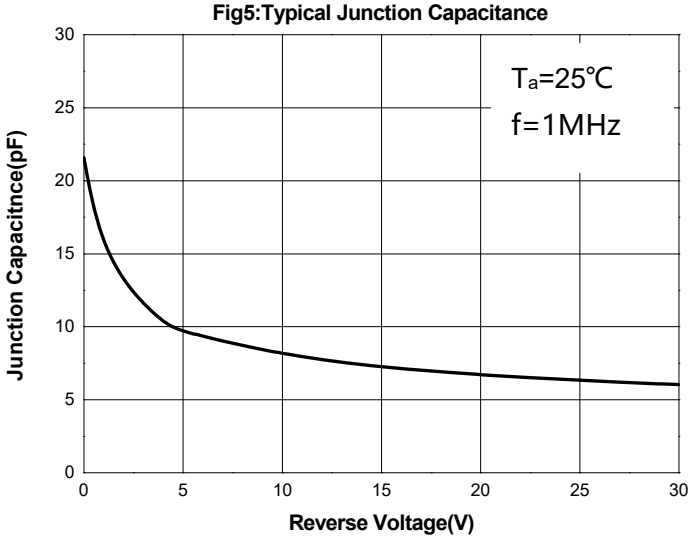


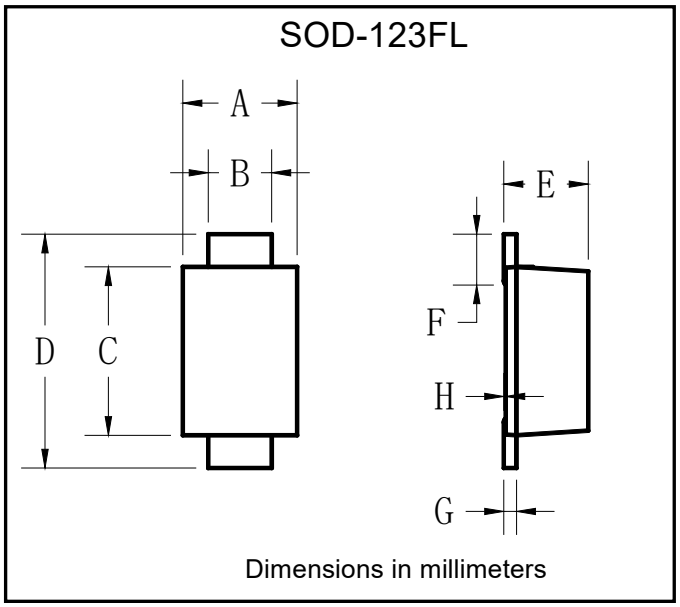
Fig5:Typical Junction Capacitance



■Ordering Information (Example)

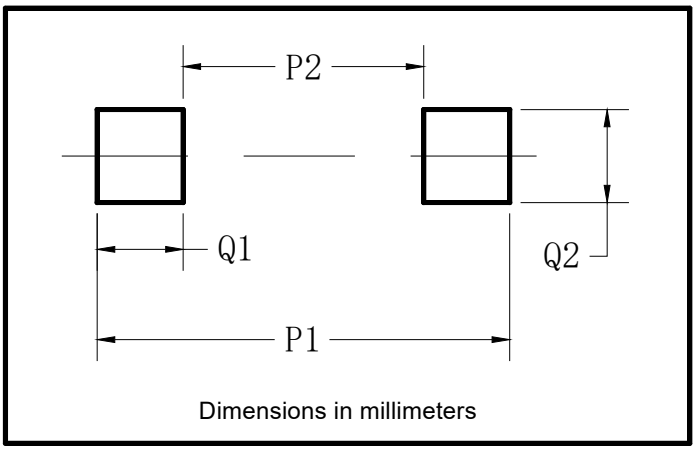
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
G1AQ THRU G1MQ	F1	Approximate 0.0177	3000	15000	120000	7” reel

■ 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

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