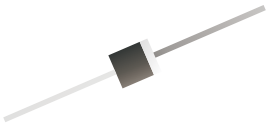
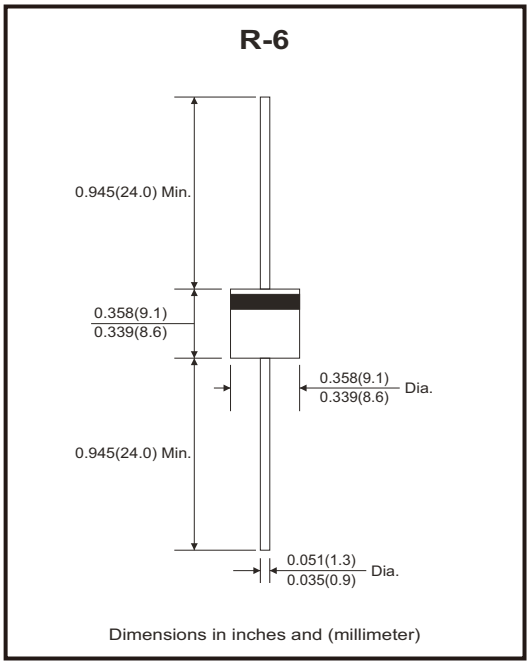
Fast Recovery Rectifier

FR601-G Thru. FR607-G

Voltage: 50 to 1000 V
Current: 6.0 A
RoHS Device





Features

- Open junction chip.
- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 250°C/10 seconds at terminals.

Mechanical data

- Epoxy: UL 94V-0 rate flame retardant
- Case: R-6, molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode.
- Mounting position: Any.

Circuit Diagram

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load derate current by 20%.

Parameter	Symbol	FR601 -G	FR602 -G	FR603 -G	FR604 -G	FR605 -G	FR606 -G	FR607 -G	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T_L=100°C	$I_{(AV)}$	6.0							A
Peak forward surge current, 8.3ms single half sine-wave super imposed on rated load	I_{FSM}	200							A
Max. instantaneous forward voltage at 6.0A	V_F	1.3							V
Max. DC reverse current at rated DC blocking voltage T_A=25°C / T_A=125°C	I_R	10 / 500							μA
Maximum reverse recovery time (Note 1)	t_{rr}	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	100							pF
Typical thermal resistance	$R_{\theta JA}$	40							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 ~ +150							°C

Notes: 1. Reverse recovery time test condition: I_F=0.5A I_R=1A I_{rr}=0.25A.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

Rating and Characteristic Curves (FR601-G Thru. FR607-G)

Fig.1 - Derating Curve Output Rectified Current

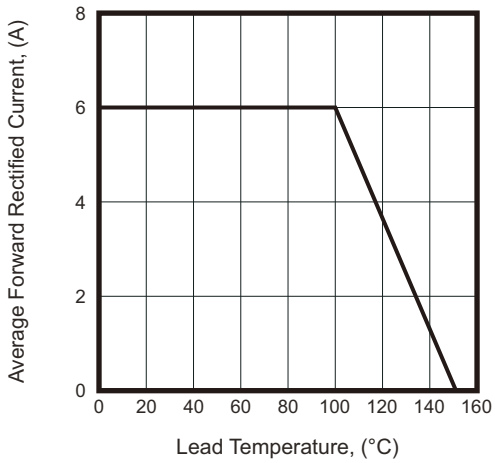


Fig.2 - Max. Non-Repetitive Peak Forward Surge Current Per Leg

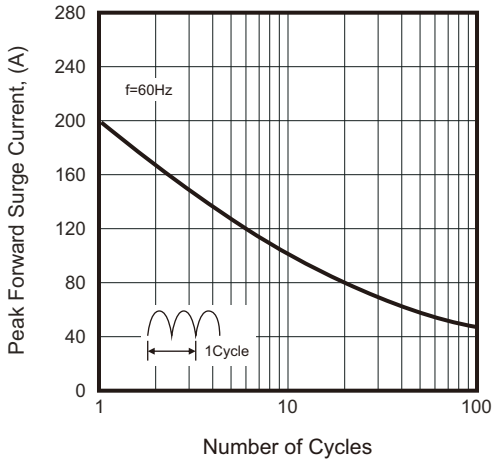


Fig.3 - Typical Forward Voltage Characteristics

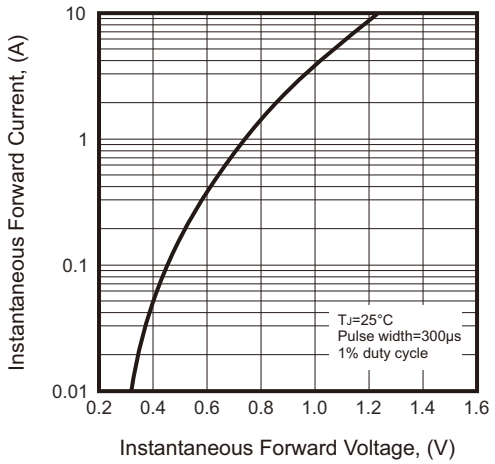
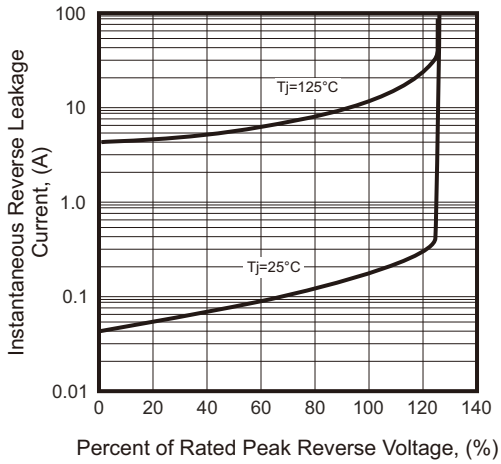
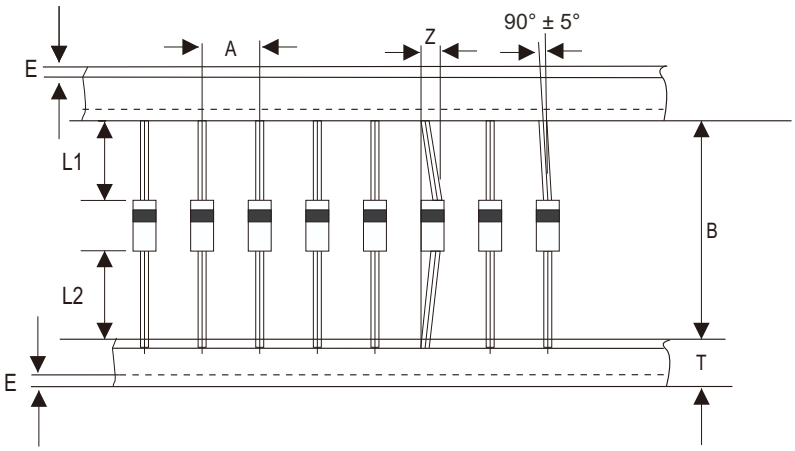
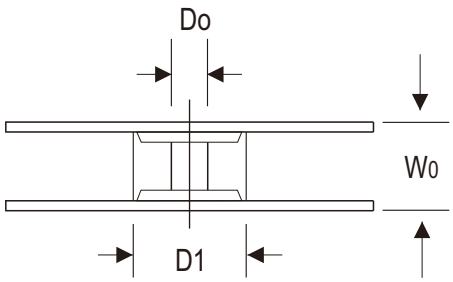


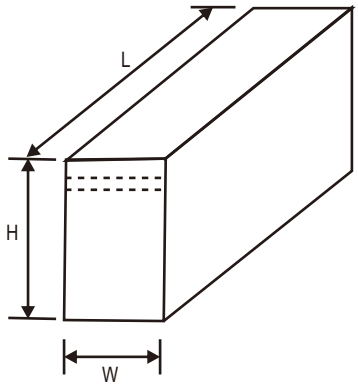
Fig.4 - Typical Reverse Leakage Characteristics

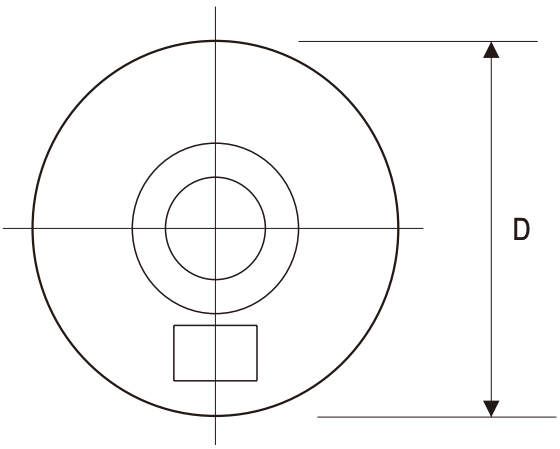


Taping Specification For Axial Lead Diodes









	SYMBOL	A	B	Z	T	E	|L1-L2|
R-6	(mm)	10.00 ± 0.50	52.40 + 1.50 − 0.40	1.20 (max)	6.00 ± 0.40	0.80 (max)	1.00 (max)
	(inch)	0.394 ± 0.020	2.063 + 0.059 − 0.016	0.047 (max)	0.236 ± 0.016	0.031 (max)	0.039 (max)

	SYMBOL	D1	D0	D	W0	L	W	H
R-6	(mm)	85.70 ± 0.30	16.60 ± 0.40	330.00	79.00 ± 1.00	255.00 ± 5.00	75.00 ± 5.00	150.00 ± 5.00
	(inch)	3.374 ± 0.012	0.654 ± 0.016	12.992	3.110 ± 0.039	10.039 ± 0.197	2.953 ± 0.197	5.906 ± 0.197