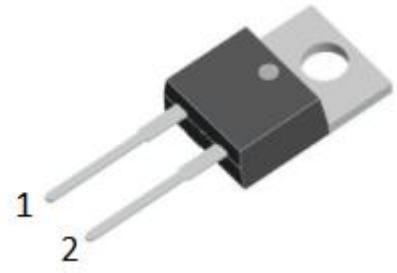
Technical Data
Data Sheet N0451, Rev. D

FR801G THRU FR807G

GLASS PASSIVATED FAST RECOVERY RECTIFIERS

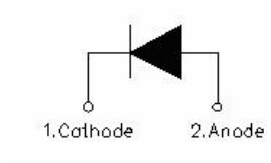


TO-220AC

Features

- **Glass Passivated Die Construction**
- **High Current Capability**
- **Low Reverse Leakage Current**
- **Fast Switching**
- **High Surge Current Capability**
- **This is a Pb − Free Device**
- **All SMC parts are traceable to the wafer lot**
- **Additional testing can be offered upon request**

Circuit Diagram



Mechanical Data

- **Case: TO-220AC molded plastic**
- **Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208**
- **Polarity: Color band denotes cathode end**
- **Mounting Position: Any**
- **Weight: 1.8 grams**

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	FR 801G	FR 802G	FR 803G	FR 804G	FR 805G	FR 806G	FR 807G	Units
Maximum repetitive peak reverse voltage Maximum DC blocking voltage	V_{RRM} V_{DC}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum average forward rectified current 0.375"(9.5mm) lead length at @T_C =90°C	$I_{(AV)}$	8.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200							A
Maximum instantaneous forward voltage at 8.0A	V_F	1.3							V
Maximum DC reverse current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	5.0 300							μA
Maximum reverse recovery time (Note 1)	t_{rr}	150				250	500		ns
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2							°C/W
Operating junction temperature range	T_J	-55 to +150							°C
Operating storage temperature range	T_{STG}	-55 to +150							°C

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=0.25A

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Ratings and Characteristics Curves

FIG1: IF（AV）–Tc Derating

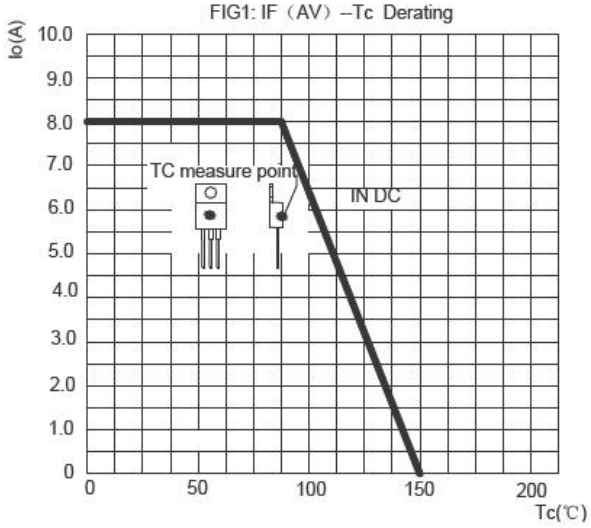

FIG2:Surge Forward Current Capadility

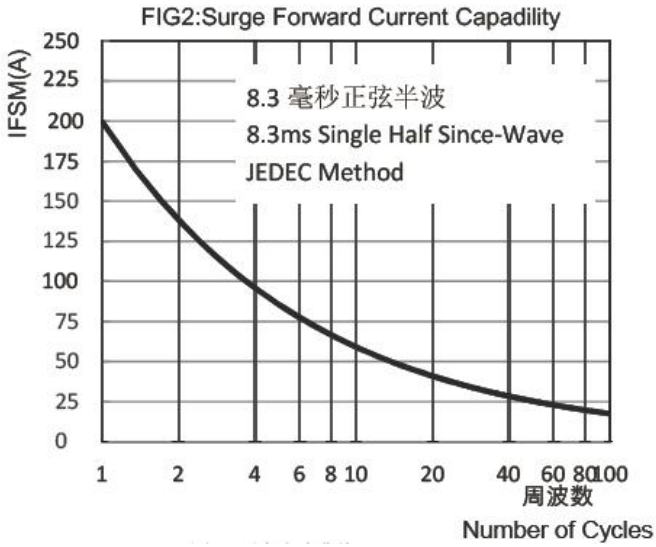

FIG3:Instantaneous Forward Voltage

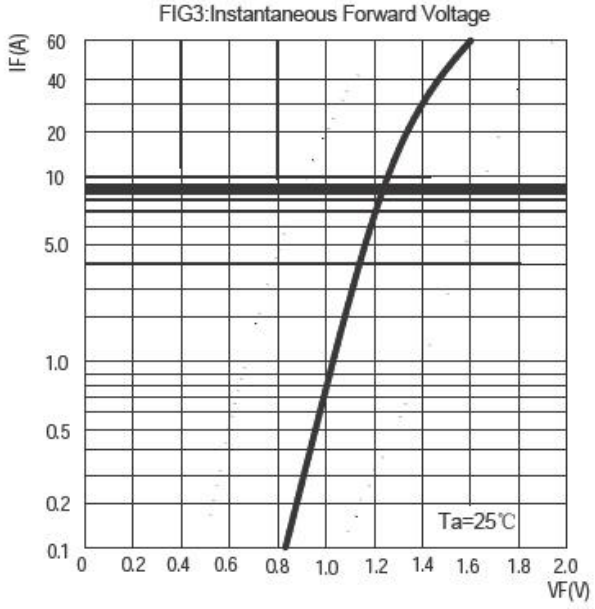

FIG4:Typical Reverse Characteristics

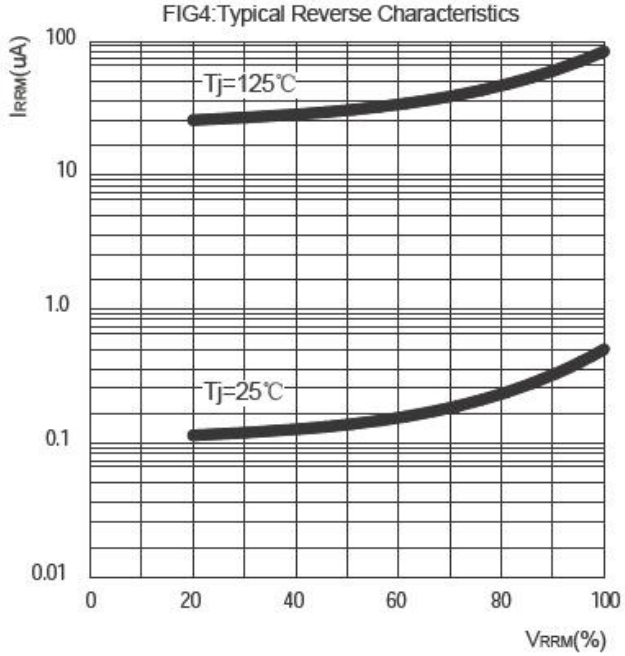

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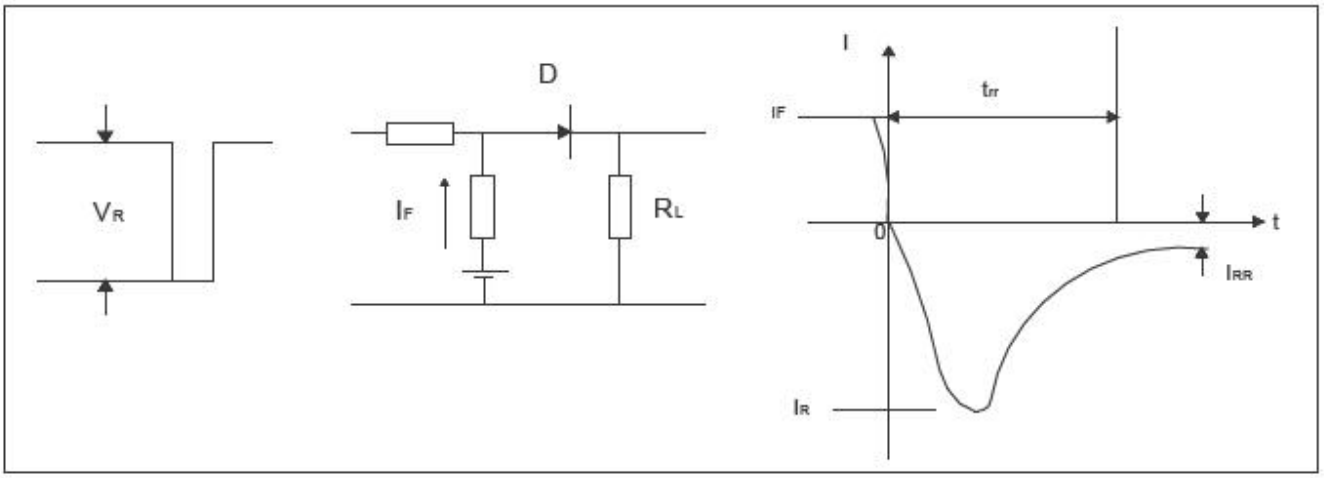
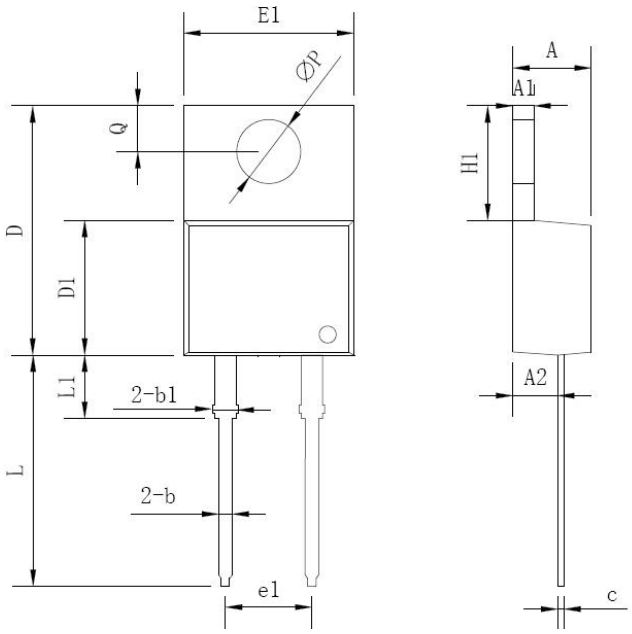
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Mechanical Dimensions TO-220AC



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E1	9.65	10.16	10.67
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
ΦP	-	3.56	-
Q	2.54	-	3.43

Ordering Information

Device	Package	Shipping
FR801G-FR807G	TO-220AC (Pb-Free)	50 pcs/ tube

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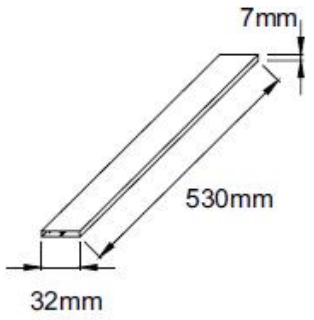
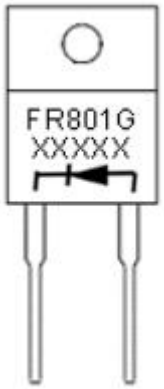
Tube Specification



Marking Diagram



Where XXXXX is YYWWL

FR801G	= Part Name
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0