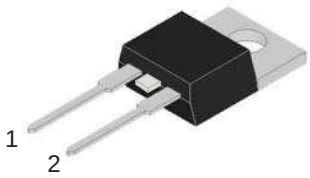
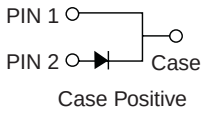
16.0 Amp. Glass Passivated Fast Recovery Rectifiers

TO-220AC





Case Positive

Voltage	Current
200 to 1000 V	16.0 A

- Glass passivated chip junction.
- High efficiency, Low VF
- High current capability
- High reliability
- High surge current capability
- Low power loss

MECHANICAL DATA

- Case: TO-220AC Molded plastic
- Epoxy: UL 94V0 rate flame retardant
- Terminals: Pure tin plated, Lead free. Leads solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- High temperature soldering guaranteed: 260 °C/10 seconds/4.06mm from case.
- Mounting position: Any
- Weight: 2.24 grams

Absolute Maximum Ratings, according to IEC publication No. 134

		FRA 1603G	FRA 1604G	FRA 1605G	FRA 1606G	FRA 1607G
V_{RRM}	Maximum Recurrent Peak Reverse Voltage (V)	200	400	600	800	1000
V_{RMS}	Maximum RMS Voltage (V)	140	280	420	560	700
V_{DC}	Maximum DC Blocking Voltage (V)	200	400	600	800	1000
$I_{F(AV)}$	Maximum Average Forward Rectified Current See Fig.	16.0 A				
I_{FSM}	Peak Forward Surge Current 8.3 ms. single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	250 A				
T_{rr}	Maximum Reverse Recovery Time From I_F =0.5 A; I_R = 1 A; I_{RR} = 0.25 A	150 nS		250 nS	500 nS	
C_j	Typical Junction Capacitance at 1MHz and reverse voltage of $4V_{DC}$	70 pF				
T_j	Operating temperature range	– 65 to + 150 °C				
T_{stg}	Storage temperature range	– 65 to + 150 °C				

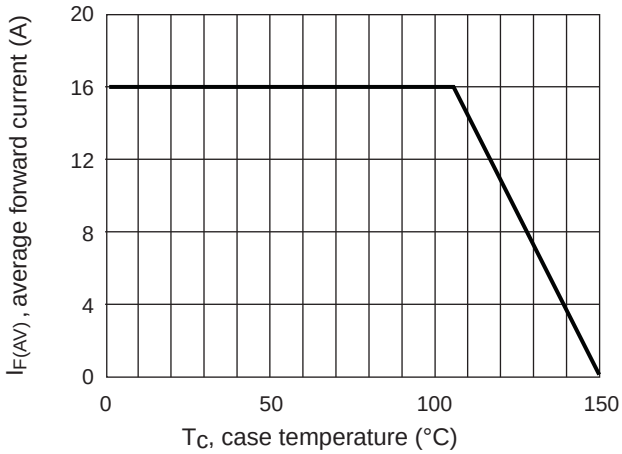
Electrical Characteristics

		FRA 1603G	FRA 1604G	FRA 1605G	FRA 1606G	FRA 1607G
V_F	Max. Instantaneous Forward Voltage @16.0 A	1.3 V				
I_R	Maximum DC Reverse Current @ T_C = 25 °C at Rated DC Blocking Voltage @ T_C = 125 °C	5.0 µA 100 µA				
$R_{thj\text{-}C}$	Typical Thermal Resistance (Note 1)	2.5 °C/W				

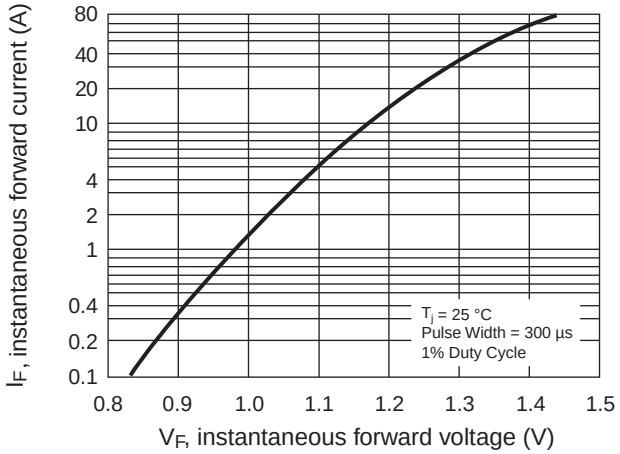
Note: 1. Thermal Resistance from Junction to case Per Leg Mounted on Heatsink Size of 50.8 mm x 76.2 mm x 6.35 mm Al-Plate.

Rating And Characteristic Curves

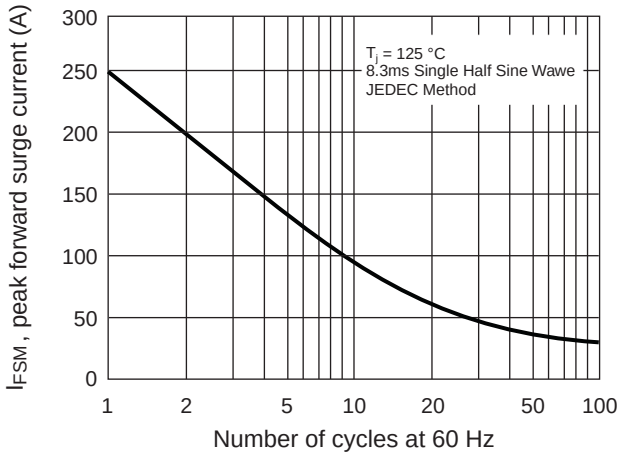
MAXIMUM FORWARD CURRENT DERATING CURVE



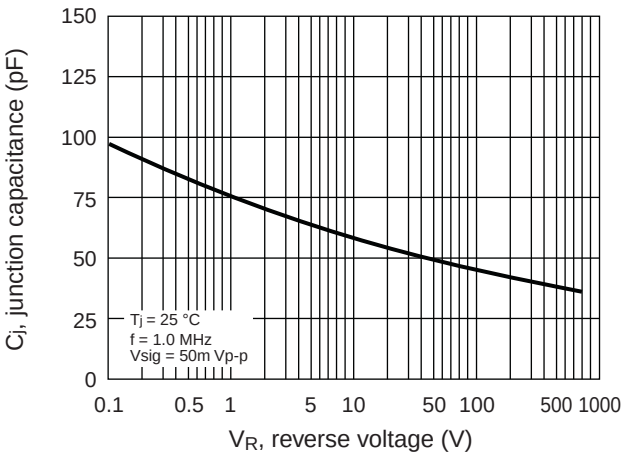
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG



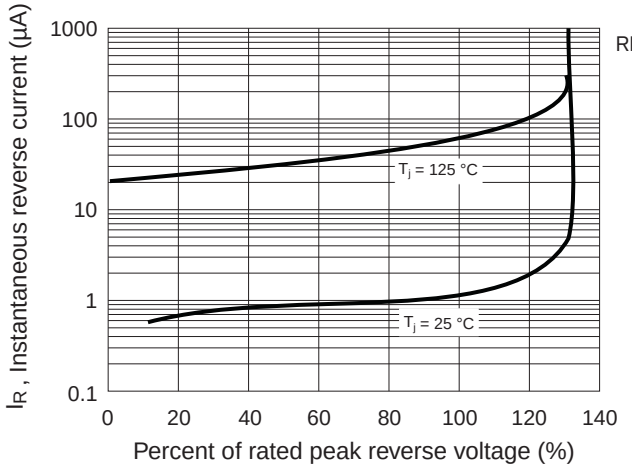
MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



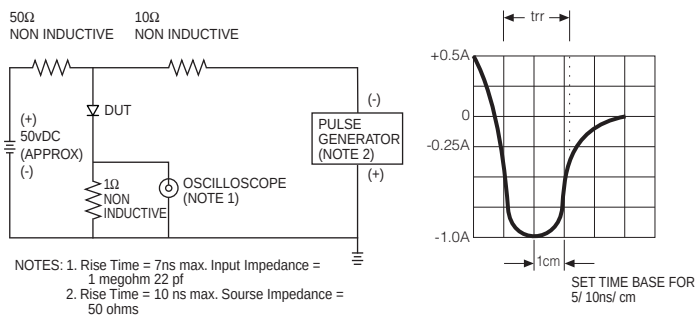
TYPICAL JUNCTION CAPACITANCE



TYPICAL REVERSE CHARACTERISTICS PER LEG

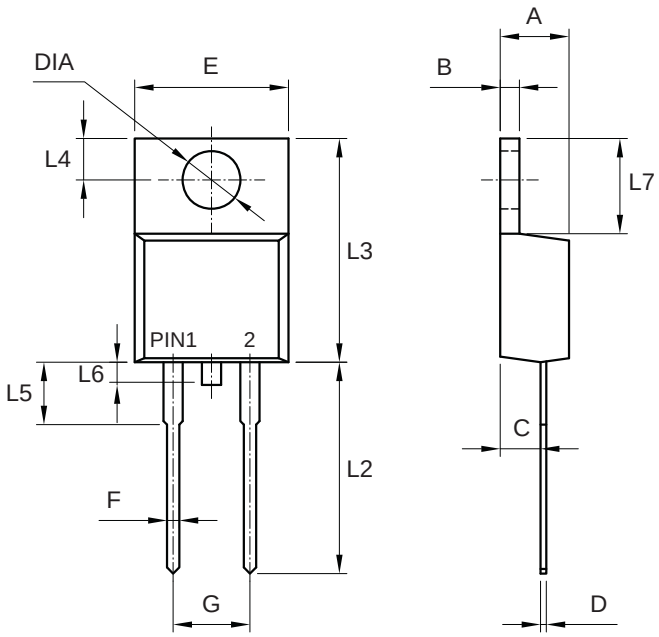


REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm 22 pf
2. Rise Time = 10 ns max. Sourse Impedance = 50 ohms

PACKAGE MECHANICAL DATA TO-220AC



REF.	DIMENSIONS	
	Milimeters	
	Min.	Max.
A	4.44	4.70
B	1.14	1.40
C	2.54	2.79
D	0.35	0.64
E	-	10.50
F	0.68	0.94
G	4.95	5.20
L2	13.46	14.22
L3	14.9	15.10
L4	2.62	2.87
L5	3.56	4.06
L6	-	1.60
L7	5.84	6.86
DIA	3.74	3.91