



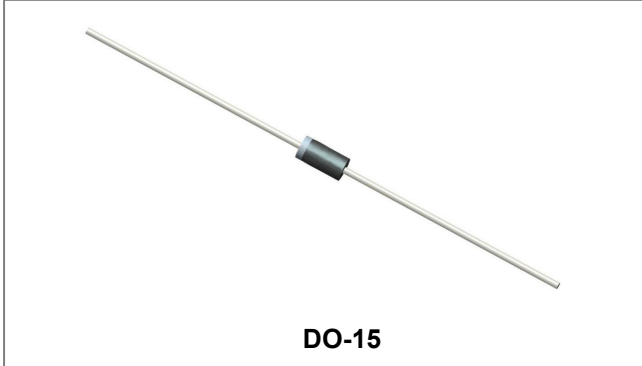
# THE DATASHEET OF FR207G



# FR201G THRU FR207G

## FAST RECOVERY GLASS PASSIVATED RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 2.0 Amperes



### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 260 C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- Glass passivated chip junction
- 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: JEDEC DO-15 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.014 ounce, 0.40 grams

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	FR 201G	FR 202G	FR 203G	FR 204G	FR 205G	FR 206G	FR 207G	Units
Maximum repetitive peak reverse voltage Maximum DC blocking voltage	V <sub>RRM</sub> V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at @T <sub>A</sub> = 75°C	I <sub>(AV)</sub>	2.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	70							A
Maximum instantaneous forward voltage at 2.0A	V <sub>F</sub>	1.3							V
Maximum DC reverse current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	5.0 100							µA
Maximum reverse recovery time (Note 1)	t <sub>rr</sub>	150				250	500		ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	40							pF
Typical Thermal Resistance Junction to Ambient (Note 3)	R <sub>θJA</sub>	40							°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

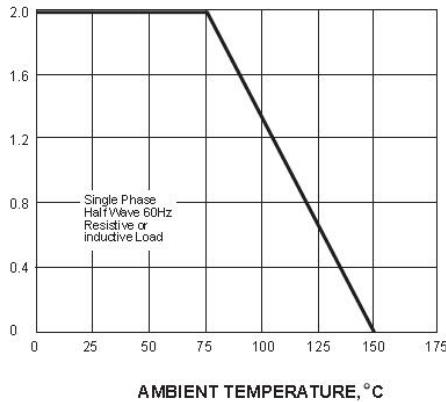
Note: 1. Reverse recovery condition I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A  
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

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**Ratings and Characteristics Curves**

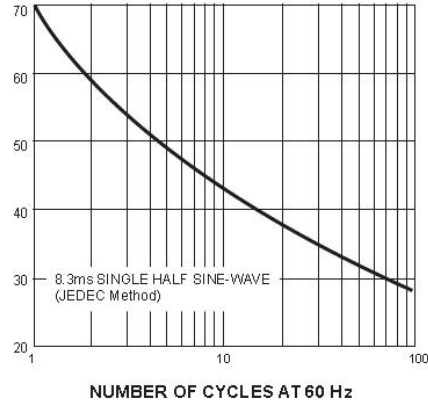
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



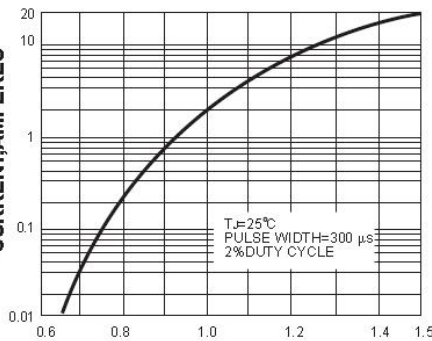
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



INSTANTANEOUS FORWARD CURRENT, AMPERES

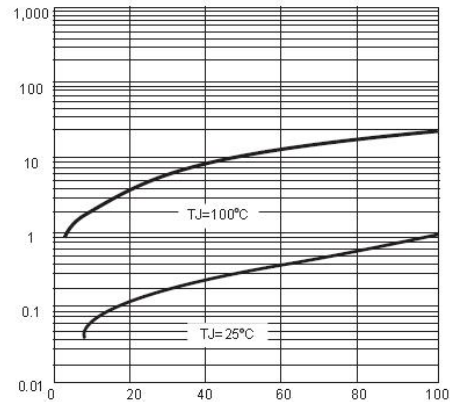
FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE,  
VOLTS

INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

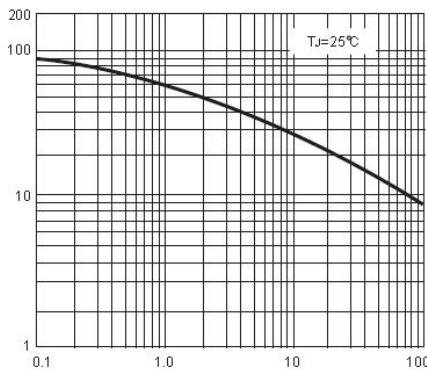
FIG. 4- TYPICAL REVERSE CHARACTERISTICS



PERCENT OF PEAK REVERSE VOLTAGE, %

JUNCTION CAPACITANCE, pF

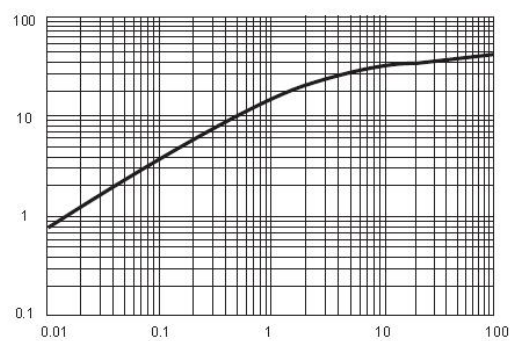
FIG. 5- TYPICAL JUNCTION CAPACITANCE



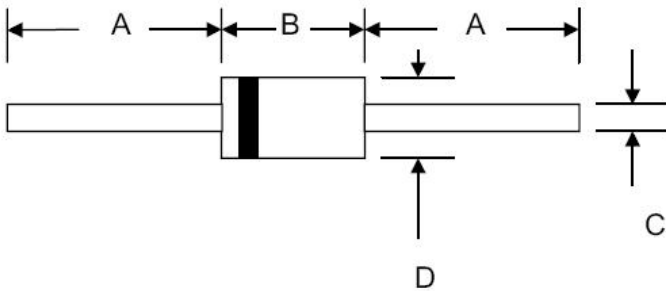
REVERSE VOLTAGE, VOLTS

TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE



t, PULSE DURATION, sec.

**Mechanical Dimensions DO-15**


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.7	0.9	0.028	0.034
D	2.6	3.6	0.104	0.140

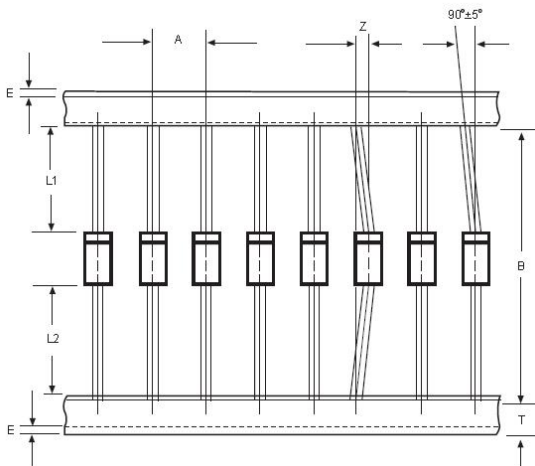
**Ordering Information**

Device	Package	Shipping
FR201G-FR207G	DO-15 (Pb-Free)	3000pcs /tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


FR201G = Part Name

**Carrier Tape Specification DO-15**


SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0



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