



SYNSEMI SEMICONDUCTOR

## FR201G thru FR207G

2.0 Amps. Glass Passivated Fast Recovery Rectifiers  
Voltage Range 50 to 1000 Volts Forward Current 2.0 Amperes

### Features

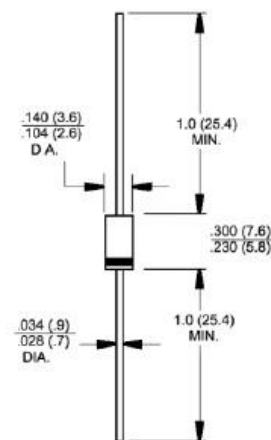
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-204AC (DO-15)

### Mechanical Data

- ◆ Case: Molded plastic DO-204AC(DO-15)
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds .375" (9.5mm) lead  
lengths at 5 lbs., (2.3kg) tension
- ◆ Mounting position: Any
- ◆ Weight: 0.014 ounce, 0.395 gram



Dimensions in inches and (millimeters)

### 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	Symbols	FR201G	FR202G	FR203G	FR204G	FR205G	FR206G	FR207G	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length @ $T_A=55^{\circ}\text{C}$	$I_{(AV)}$	2.0							Amps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	55.0							Amps
Maximum instantaneous forward voltage @ 2.0A DC	$V_F$	1.3							Volts
Maximum DC reverse current @ $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage @ $T_A=125^{\circ}\text{C}$	$I_R$	5.0 100							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_r$	150				250	500		nS
Typical junction capacitance (Note 2)	$C_j$	25							pF
Operating temperature range	$T_j$	-65 to +150							$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150							$^{\circ}\text{C}$

**Notes:** 1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$   
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

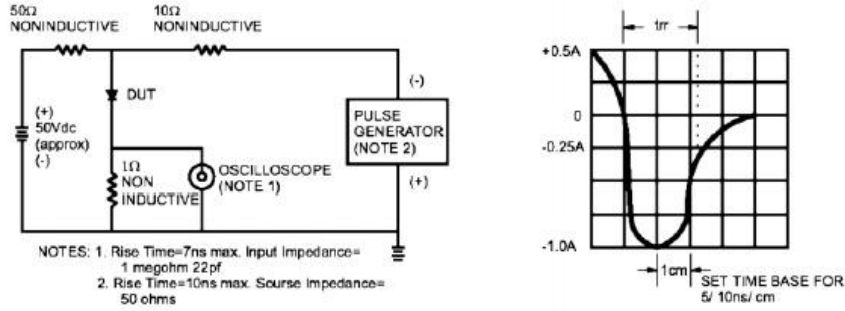


FIG.3- TYPICAL FORWARD CHARACTERISTICS

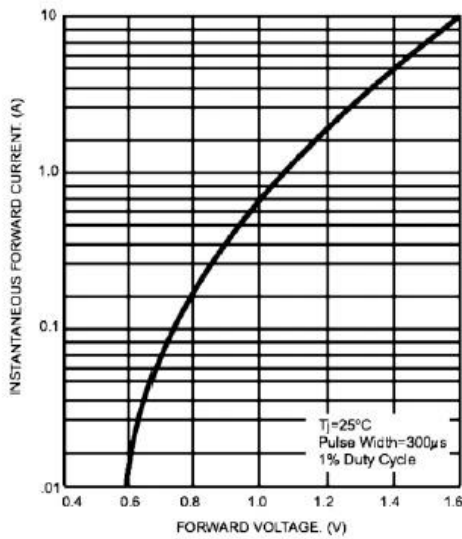


FIG.2- TYPICAL JUNCTION CAPACITANCE

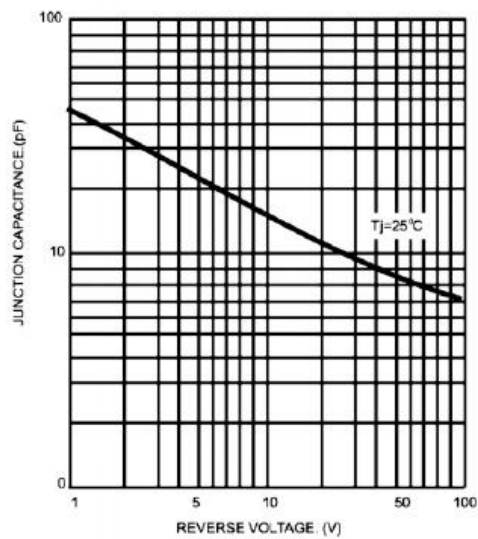


FIG.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

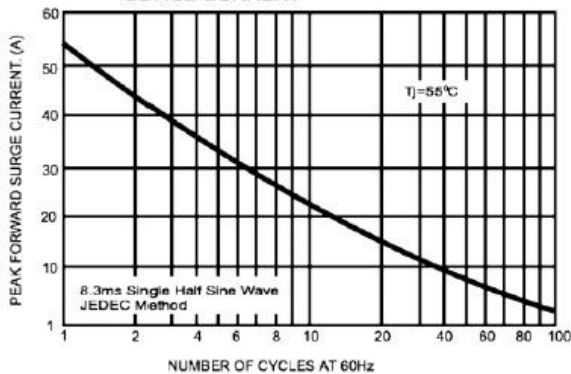


FIG.4- MAXIMUM FORWARD CURRENT DERATING CURVE

