

# PFS

## FAST RECOVERY RECTIFIERS

FR101 THRU FR107

VOLTAGE RANGE  
CURRENT

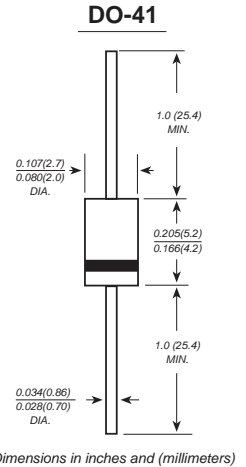
50 to 1000 Volts  
1.0 Ampere

### 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:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

- Case: JEDEC DO-41 molded plastic body
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight: 0.012 ounce, 0.33 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

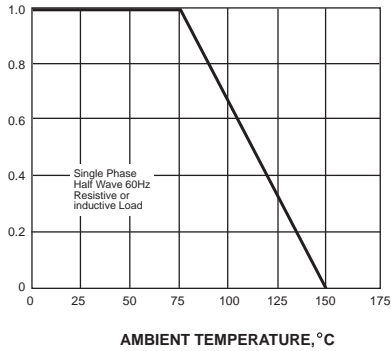
- Ratings at 25°C ambient temperature unless otherwise specified.
- Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	FR 101	FR 102	FR 103	FR 104	FR 105	FR 106	FR 107	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 at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150			250		500		ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	50.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$

- Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 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

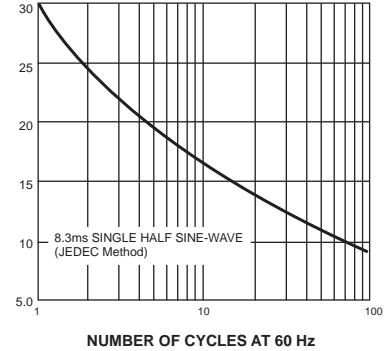
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

**FIG. 1- FORWARD CURRENT DERATING CURVE**

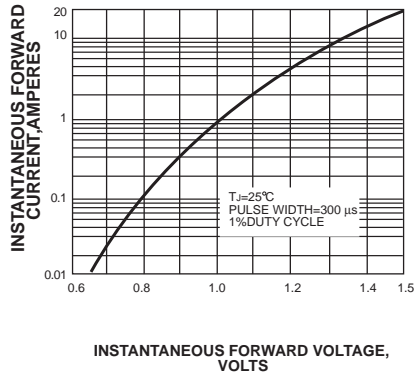


PEAK FORWARD SURGE CURRENT, AMPERES

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

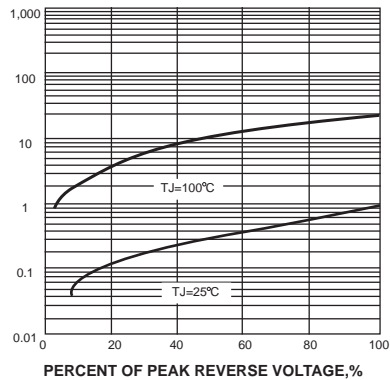


**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

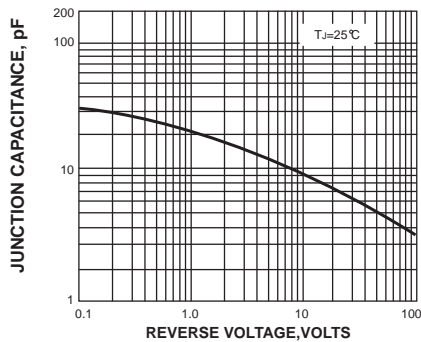


INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



TRANSIENT THERMAL IMPEDANCE, °C/W

**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

