



**Hyperfast Recovery Rectifier  
Planar FRED**



**Voltage - 600 Volts Current - 10.0 Amperes**

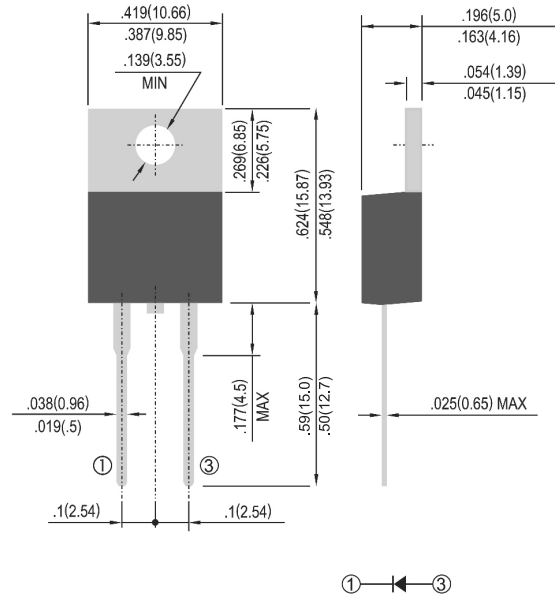
**Features**

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- High speed switching

**Mechanical Data**

- Case: TO-220AC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)  
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.90 grams (approximate)

TO-220AC Unit:inch(mm)



**Maximum Ratings (TA=25°C unless otherwise noted)**

Parameter	Symbol	PFD10S06SC	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	V
Maximum RMS voltage	$V_{RMS}$	420	V
Maximum DC blocking voltage	$V_{DC}$	600	V
Maximum average forward rectified current	$I_F$	10	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100	A
Maximum Instantaneous Forward Voltage IF=2A @ 25°C IF=10A @ 25°C	$V_F$	1.5 Typ. 2.3 Max.	V
Maximum DC Reverse Current @ TA=25°C at Rated DC Blocking Voltage @ TA=125°C	$I_R$	2 50	uA
Typical Junction Capacitance (NOTE1)	$C_j$	40	pF
Maximum Reverse Recovery Time (NOTE2)	$T_{rr}$	25	ns
Typical Thermal Resistance	$R_{\theta JC}$	3	°C/W
Operating Temperature Range	$T_J$	-55 to +175	°C
Storage Temperature Range	$T_{STG}$	-55 to +175	°C

NOTES :

- 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC
- 2.Measured with IF=0.5A, IR=1A, IRR=0.25A

# DEVICE CHARACTERISTICS

## PFD10S06SC

FIG. 1-Typical Forward Current Derating Curve

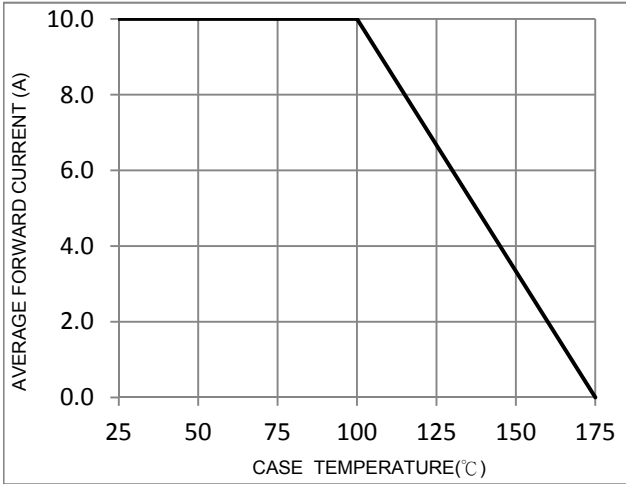


FIG. 2-Typical Forward Characteristics

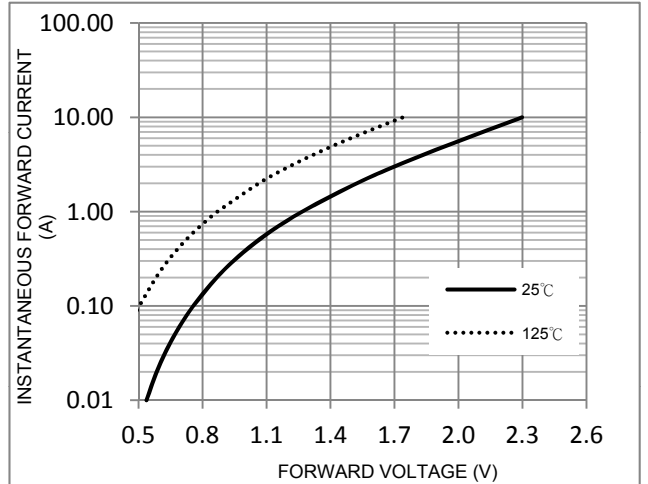


FIG. 3-Maximum Non-Repetitive Forward Surge Current

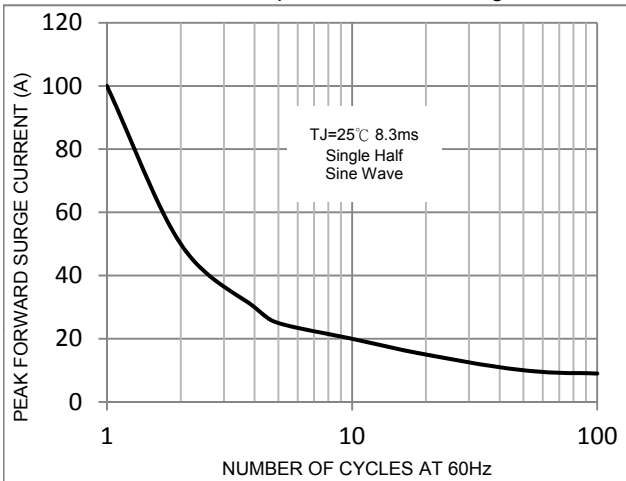


FIG. 4-Typical Reverse Characteristics

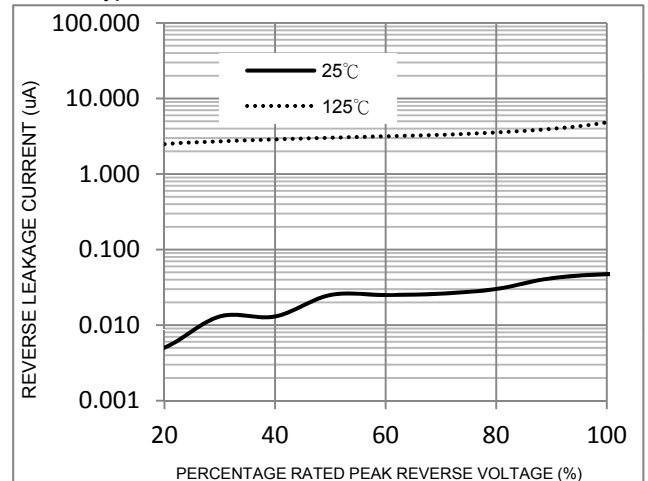


FIG. 5-Typical Junction Capacitance

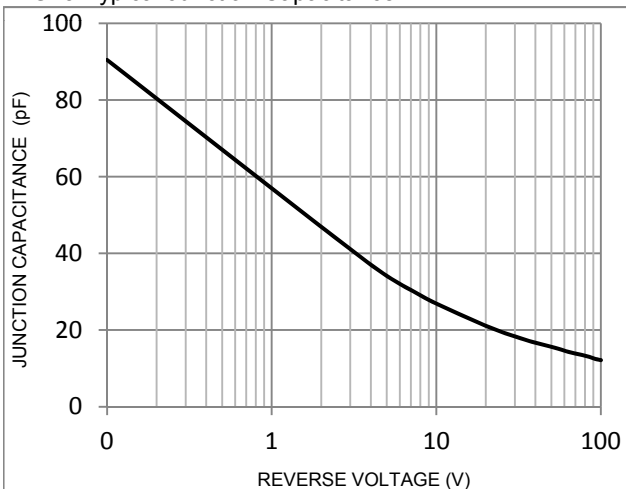


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit

