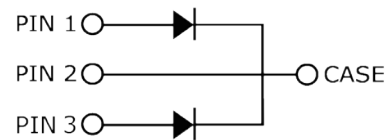


Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10X2	A
V_{RRM}	300	V
$V_F@ 10A, T_J=125^\circ C$	0.71	V, typ.
T_J Operating Junction Temperature	-65 to +175	$^\circ C$



Features

- Ultra Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 175 $^\circ C$ Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications

1. Characteristics

Maximum Ratings Characteristics ($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	300	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device	I_o	20	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	180	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	0.5	Amps
Typical Thermal Resistance (per leg) Package = TO-220F	$R\theta_{JC}$	4	$^{\circ}\text{C} / \text{W}$
Isolation voltage TO-220	V_{AC}	1500	V
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 65 to +175	$^{\circ}\text{C}$
Storage Junction Temperature	T_{STG}	- 65 to +175	

Electrical Characteristics - (per leg) ($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Breakdown Voltage	$I_R = 0.5\text{mA}$	$T_J = 25^{\circ}\text{C}$	V_B^*	300 (min.)		V
Instantaneous Forward Voltage	$I_F = 10\text{A}$	$T_J = 25^{\circ}\text{C}$	V_F^*	----	0.89	Volts
		$T_J = 125^{\circ}\text{C}$		0.71	0.74	
Instantaneous Reverse Current	At V_{RM}	$T_J = 25^{\circ}\text{C}$	I_R^*	----	100	μA
		$T_J = 125^{\circ}\text{C}$		----	30	mA

* Pulse width < 300 uS, Duty cycle < 2%

2. Characteristics Curves

Ratings and Characteristics Curves

($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

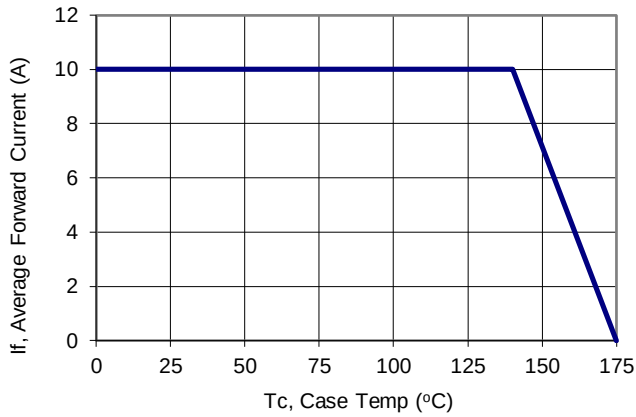


Figure 1: Current Derating, Case

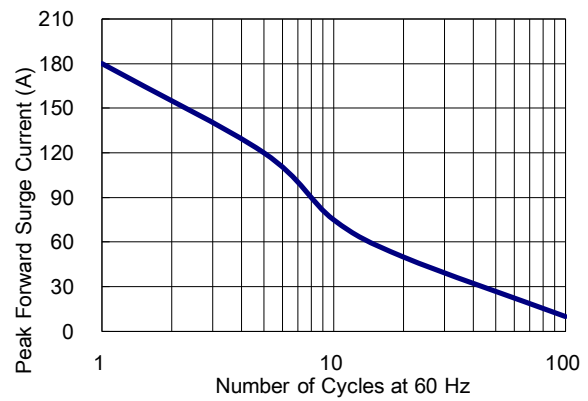


Figure 2: Maximum Repetitive Surge Current

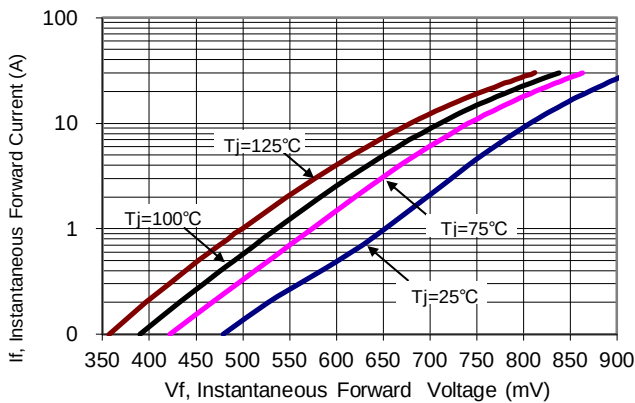


Figure 3: Typical Forward Voltage

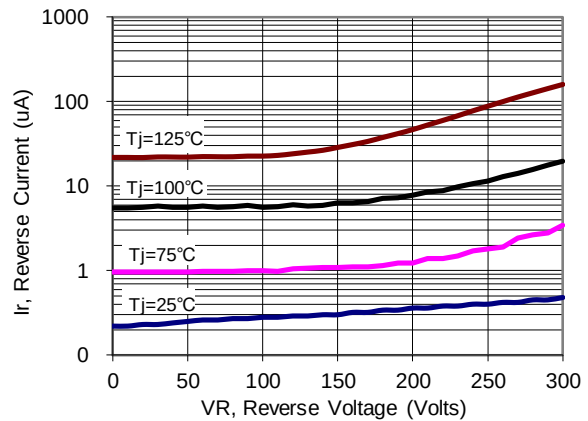


Figure 4: Typical Reverse Current

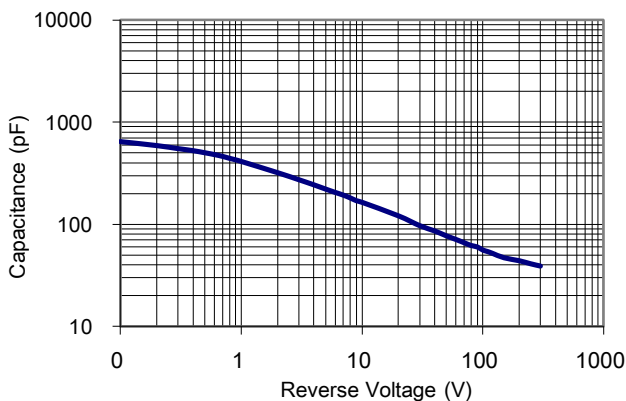
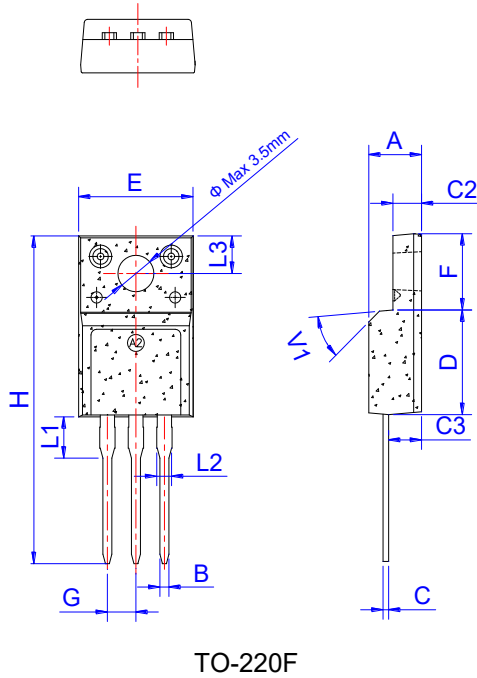


Figure 5: Typical Junction Capacitance

4. Package information



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	