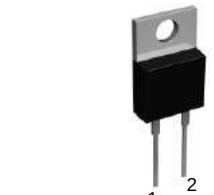
Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	16	A
V_{RRM}	300	V
V_F@ 16A , Tj=125 °C	0.77	V, typ.
T_J Operating Junction Temperature	-55 to +175	°C



TO-220-2

Features

- Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 175°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

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

1. Characteristics

Maximum Ratings Characteristics (T_A = 25℃ 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 (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	16	Amps
Peak Forward Surge Current - 1/2 60hz Note(1)	I_{FSM}	350	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	0.5	Amps
Typical Thermal Resistance Package = TO-220-2	$R\theta_{Jc}$	2	°C / W
Isolation voltage (ITO-220 only)	V_{AC}	1500	V
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 55 to +175	°C
Storage Junction Temperature	T_{STG}	- 55 to +175	

Electrical Characteristics - (T_A = 25℃ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Breakdown Voltage	I_R = 0.5mA	T_J = 25 °C	V_B*	400 (min.)		V
Instantaneous Forward Voltage	IF = 10 A	TJ = 25℃	V_F*	0.84	-----	Volts
	IF = 16 A			0.90	0.94	
	IF = 10 A	TJ = 125℃		0.71	-----	
	IF = 16 A			0.77	0.81	
Instantaneous Reverse Current	At V_{RM}	T_J = 25℃	IR*	----	10	uA
		T_J = 125℃		----	2	mA

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

Note (1) PIN 1 & PIN3 are connected during Forward Surge Current test.

2. Characteristics Curves

Ratings and Characteristics Curves (TA = 25℃ unless otherwise specified)

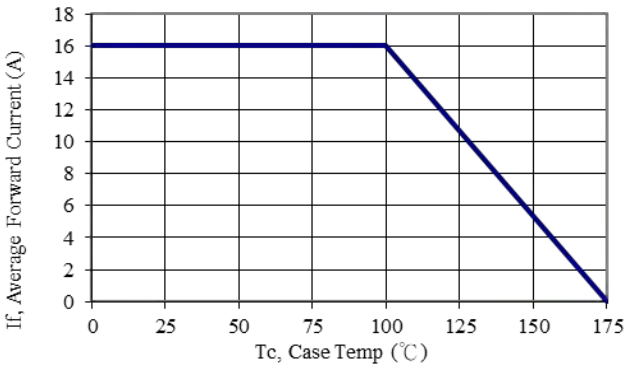


Figure 1: Current Derating, Case

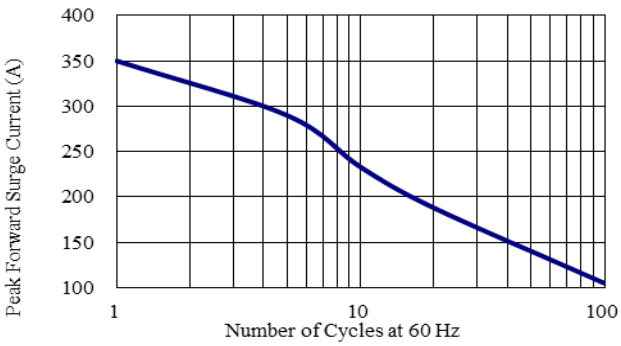


Figure 2: Maximum Repetitive Surge Current

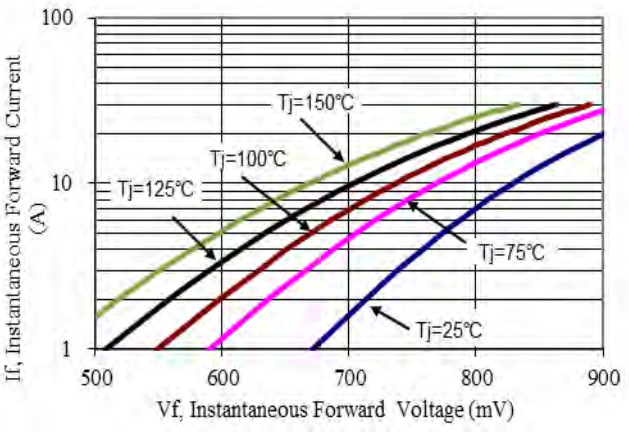


Figure 3: Typical Forward Voltage

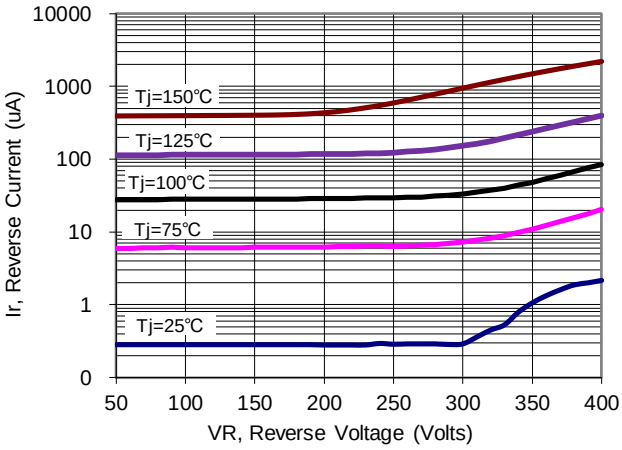


Figure 4: Typical Reverse Current

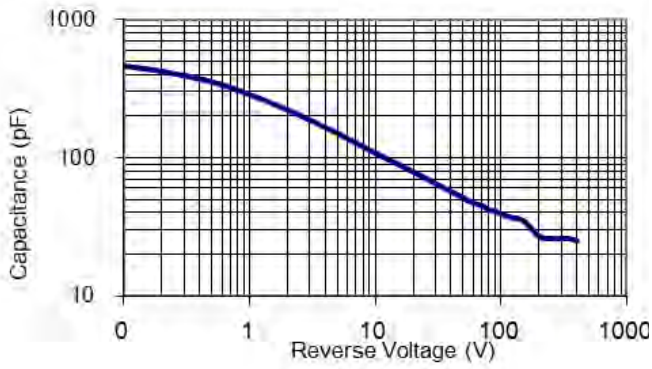
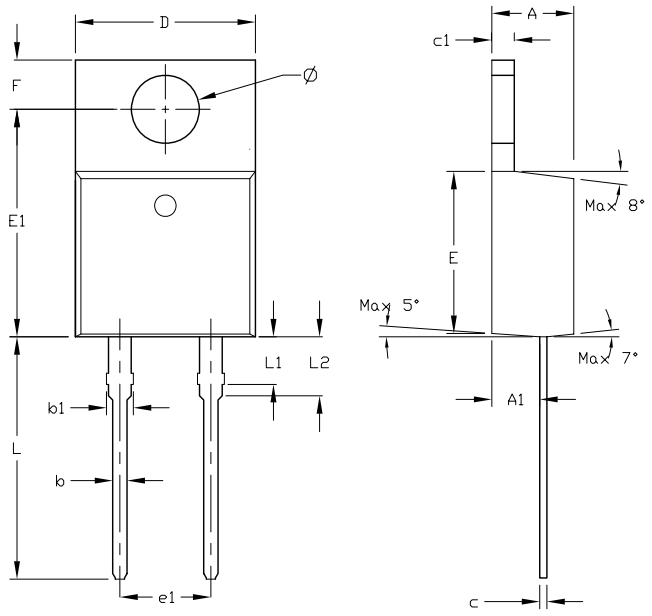


Figure 5: Typical Junction Capacitance

4. Package information

Package TO-220-2



Symbol	Dimension in Millimeters		Dimension in Inches	
	Min	Max	Min	Max
A	4.420	4.720	0.174	0.186
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.360	0.460	0.014	0.018
c1	1.170	1.370	0.046	0.054
D	9.960	10.250	0.392	0.404
E	8.990	9.290	0.354	0.366
E1	12.550	12.850	0.494	0.506
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
L	13.080	13.480	0.515	0.531
L1	2.470	2.870	0.097	0.113
L2	3.200	3.600	0.126	0.142
Ø	3.790	3.890	0.149	0.153
θ1	Max 8°			
θ2	Max 7°			
θ3	Max 5°			
T	Max 0.0205		Max 0.52	