

**Major Ratings and Characteristics**

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular waveform Per Device	60	A
$V_{RRM}$	15	V
$I_{FSM}$ @ tp = 5 $\mu$ s sine	1850	A
$V_F$ @ 30 Apk, $T_J = 125^\circ\text{C}$ (typical) per leg	0.28	V
$T_J$ range	-55 to 125	$^\circ\text{C}$

**Description/ Features**

This center tap Schottky rectifier has been optimized for low forward voltage drop. The proprietary sub-micron technology allows for low power loss both in forward and reverse conduction.

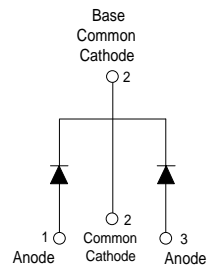
- 125  $^\circ\text{C}$   $T_J$  operation
- Center tap configuration
- Low forward voltage drop
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance

**Case Styles**

60CTT015



TO-220



## Voltage Ratings

Part number	60CTT015
V <sub>R</sub> Max. DC Reverse Voltage (V) @ T <sub>J</sub> = 125°C	15

## Absolute Maximum Ratings

Parameters	Values	Units	Conditions
I <sub>F(AV)</sub> Max. Average Forward Current (Per Leg) (Per Device)	30 60	A	50% duty cycle @ T <sub>C</sub> = 105°C, rectangular wave form
I <sub>FSM</sub> Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg)	1850 360	A	5μs Sine or 3μs Rect. pulse 10ms Sine or 6ms Rect. pulse Following any rated load condition and with rated V <sub>RRM</sub> applied
E <sub>AS</sub> Non-Repetitive Avalanche Energy (Per Leg)	9.0	mJ	T <sub>J</sub> = 25 °C, I <sub>AS</sub> = 2 Amps, L = 4.5 mH
I <sub>AR</sub> Repetitive Avalanche Current (Per Leg)	2	A	Current decaying linearly to zero in 1 μsec Frequency limited by T <sub>J</sub> max. V <sub>A</sub> = 1.5 x V <sub>R</sub> typical

## Electrical Specifications

Parameters	Typ	Max	Units	Conditions
V <sub>FM</sub> Max. Forward Voltage Drop (Per Leg) (1)	0.36	0.40	V	@ 30A T <sub>J</sub> = 25°C
	0.44	0.49	V	@ 60A
	0.28	0.32	V	@ 30A T <sub>J</sub> = 125°C
	0.39	0.45	V	@ 60A
I <sub>RM</sub> Max. Reverse Leakage Current (Per Leg) (1)	2.0	3.5	mA	T <sub>J</sub> = 25 °C V <sub>R</sub> = rated V <sub>R</sub>
	450	600	mA	T <sub>J</sub> = 125 °C
C <sub>T</sub> Junction Capacitance (Per Leg)	2900	-	pF	V <sub>R</sub> = 10V <sub>DC</sub> (test signal range 100kHz to 1MHz) 25°C
L <sub>S</sub> Series Inductance (Per Leg)	8.0	-	nH	Measured lead to lead 5mm from package body
dv/dt Max. Voltage Rate of Change	-	10000	V/μs	(Rated V <sub>R</sub> )

(1) Pulse Width &lt; 300μs, Duty Cycle &lt; 2%

## Thermal-Mechanical Specifications

Parameters	Values	Units	Conditions
T <sub>J</sub> Max. Junction Temperature Range	-55 to 125	°C	
T <sub>stg</sub> Max. Storage Temperature Range	-55 to 150	°C	
R <sub>thJC</sub> Max. Thermal Resistance Junction to Case (Per Leg)	1.2	°C/W	DC operation
R <sub>thCS</sub> Typical Thermal Resistance, Case to Heatsink	0.5	°C/W	Mounting surface, smooth and greased
wt Approximate Weight	2 (0.07)	g (oz.)	
T Mounting Torque	Min.	6 (5)	Kg-cm (lbf-in)
	Max.	12 (10)	
Case Style	TO-220AB		

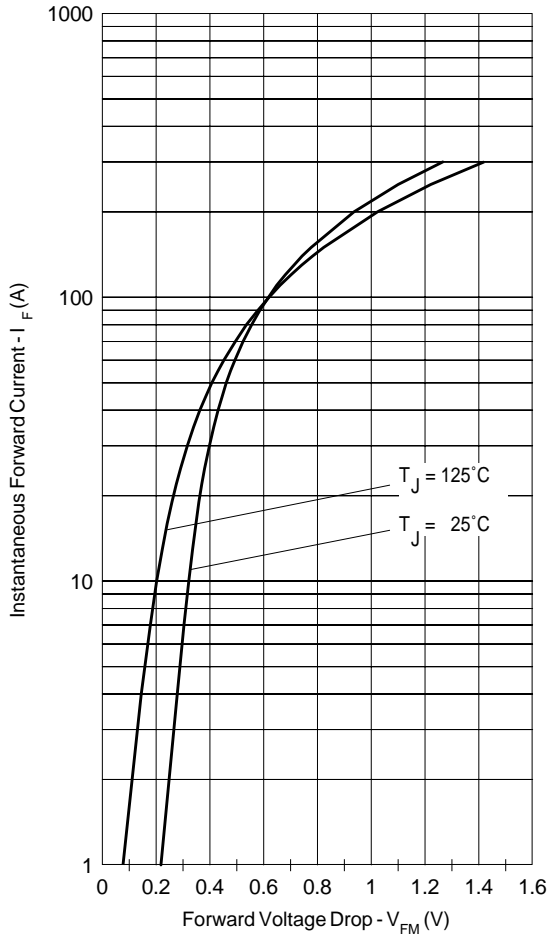


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

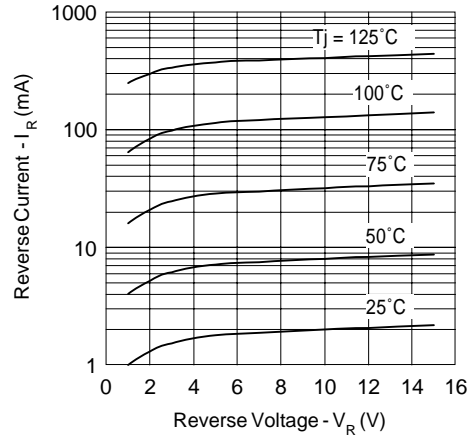


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage (Per Leg)

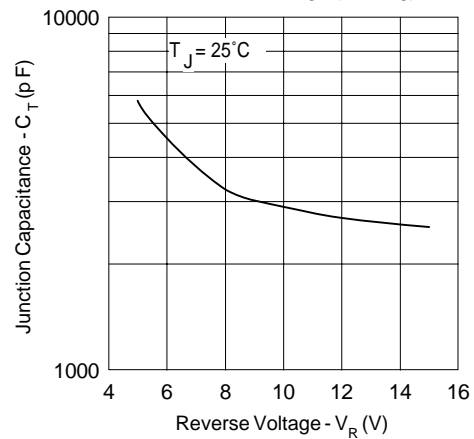


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

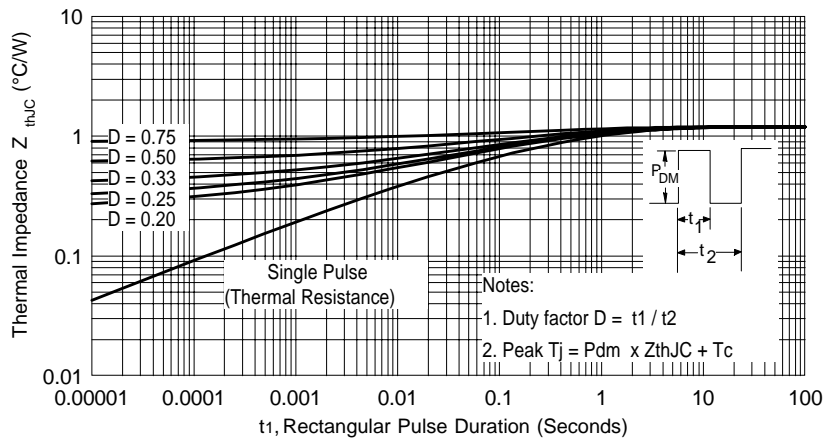


Fig. 4 - Max. Thermal Impedance  $Z_{thJC}$  Characteristics (Per Leg)

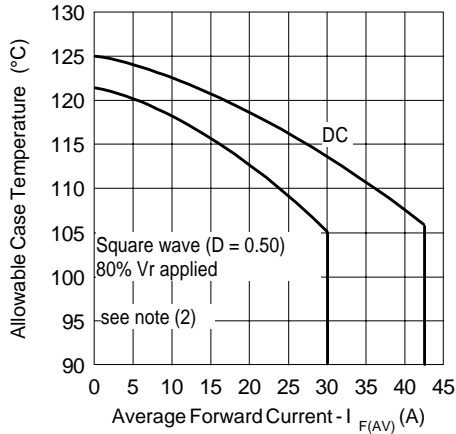


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

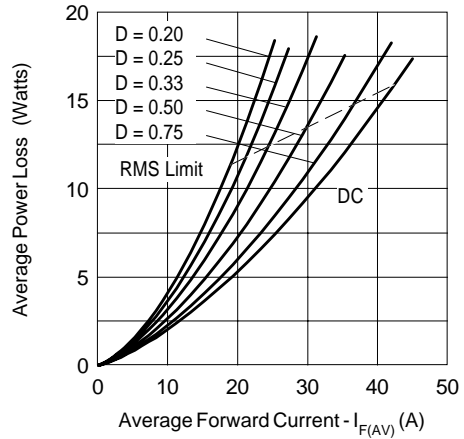


Fig. 6 - Forward Power Loss Characteristics (Per Leg)

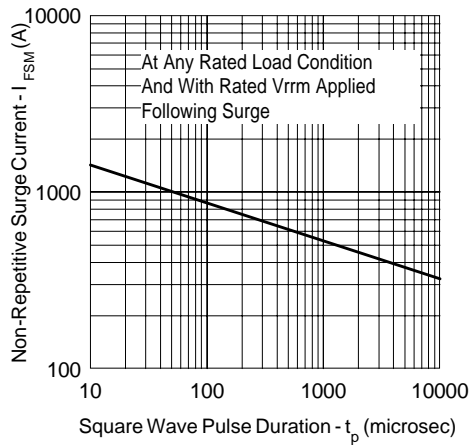


Fig. 7 - Max. Non-Repetitive Surge Current (Per Leg)

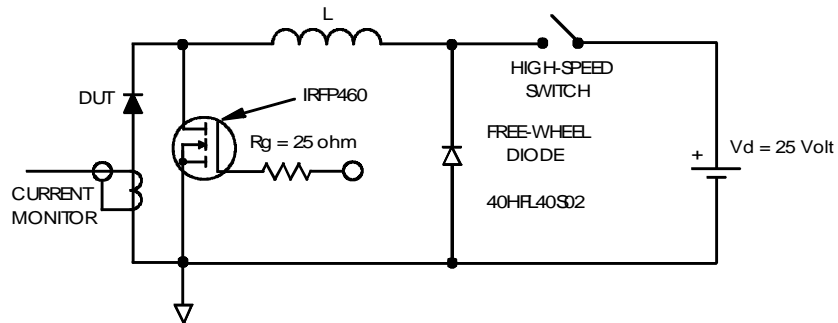


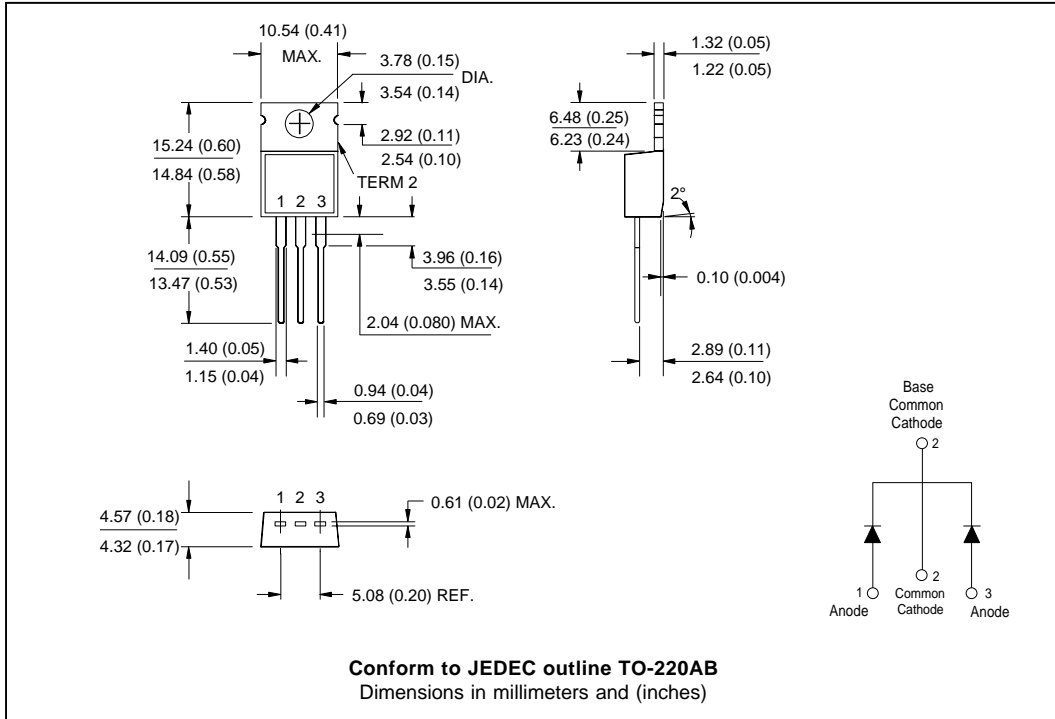
Fig. 8 - Unclamped Inductive Test Circuit

(2) Formula used:  $T_c = T_j - (P_d + P_{d_{REV}}) \times R_{thJC}$ ;

$P_d = \text{Forward Power Loss} = I_{F(AV)} \times V_{FM} @ (I_{F(AV)}/D)$  (see Fig. 6);

$P_{d_{REV}} = \text{Inverse Power Loss} = V_{R1} \times I_R (1-D); I_R @ 80\% V_R \text{ applied}$

Outline Table



Data and specifications subject to change without notice.  
 This product has been designed and qualified for Industrial Level.  
 Qualification Standards can be found on IR's Web site.