

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES
30 Amp. 45V

Ref: MIL-PRF- 19500/608

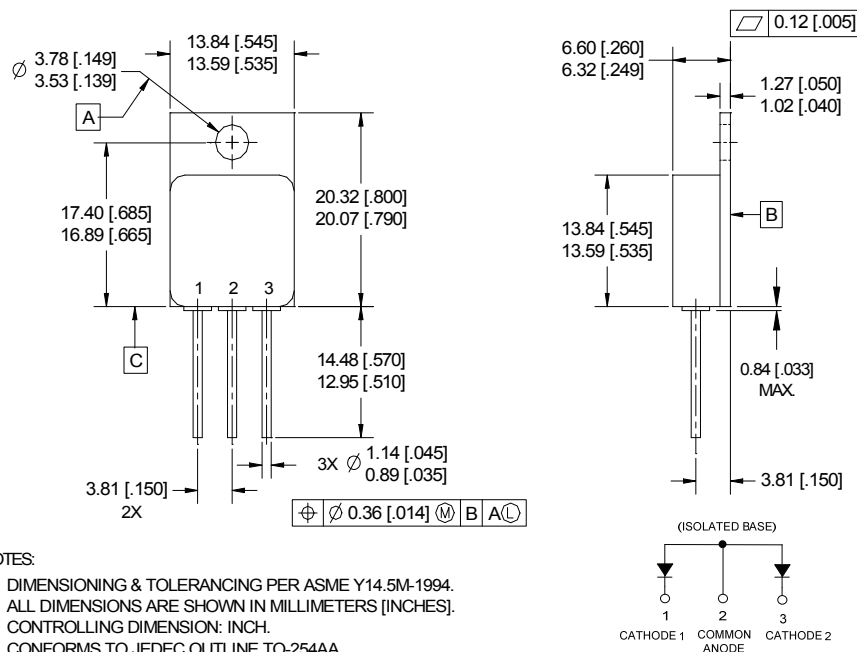
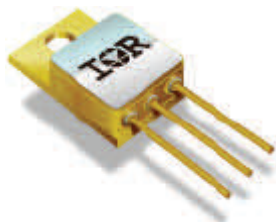
Major Ratings and Characteristics

Characteristics	1N6660CAT1	Units
$I_{F(AV)}$	30	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half-sine (Per Leg)	300	A
V_F @ 20Apk, $T_J = 125^\circ\text{C}$ (Per Leg)	0.70	V
T_J, T_{stg} Operating and storage	-65 to 150	$^\circ\text{C}$

Description/Features

The 1N6660CAT1 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of IR HiRel environments. It is packaged in the hermetic isolated TO-254AA package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

- Hermetically Sealed
- Center Tap
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Electrically Isolated
- ESD Rating: Class NS per MIL-STD-750, Method 1020

CASE STYLE**Case Outline and Dimensions - TO-254AA**

Voltage Ratings

Part Number	1N6660CAT1
V _R Max. DC Reverse Voltage (V) (Per Leg)	45
V _{RRM} Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
I _{F(AV)} Max. Average Forward Current See Fig. 5	30	A	50% duty cycle @ T _C = 88.4°C, rectangular waveform
I _{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	300	A	@ t _p = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V _{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	0.80	V	@ I _F = 15A	T _J = -55°C
	0.55	V	@ I _F = 5.0A	T _J = 25°C
	0.75	V	@ I _F = 15A	
	1.0	V	@ I _F = 30A	
I _{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	1.0	mA	T _J = 25°C	V _R = rated V _R
	40	mA	T _J = 125°C	
C _T Max. Junction Capacitance (Per Leg)	2000	pF	V _R = 5V _{DC} (1MHz, 25°C)	
L _S Typical Series Inductance (Per Leg)	6.7	nH	Measured from anode lead to cathode lead 6mm (0.25 in.) from package	

Thermal-Mechanical Specifications

Parameter	Limits	Units	Conditions
T _J Max. Junction Temperature Range	-65 to 125	°C	
T _{stg} Max. Storage Temperature Range	-65 to 150	°C	
R _{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	2.8	°C/W	DC operation See Fig. 4
R _{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	1.5	°C/W	DC operation
Wt Weight (Typical)	9.3	g	
Die Size (Typical)	150 x 150	mils	
Case Style	TO-254AA		

① Pulse Width < 300µs, Duty Cycle < 2%

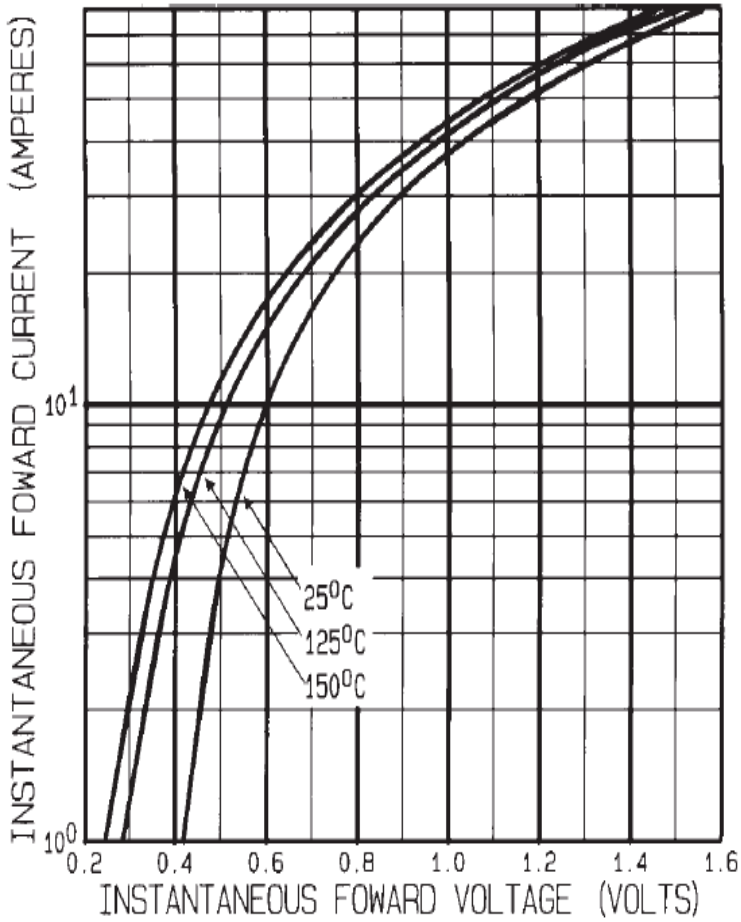


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

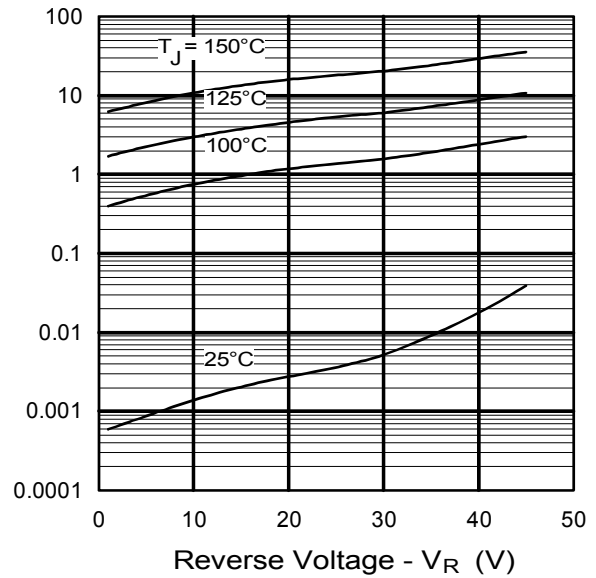


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

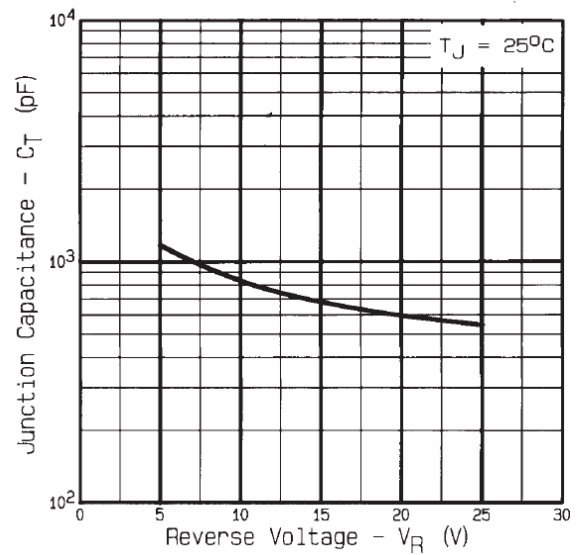


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

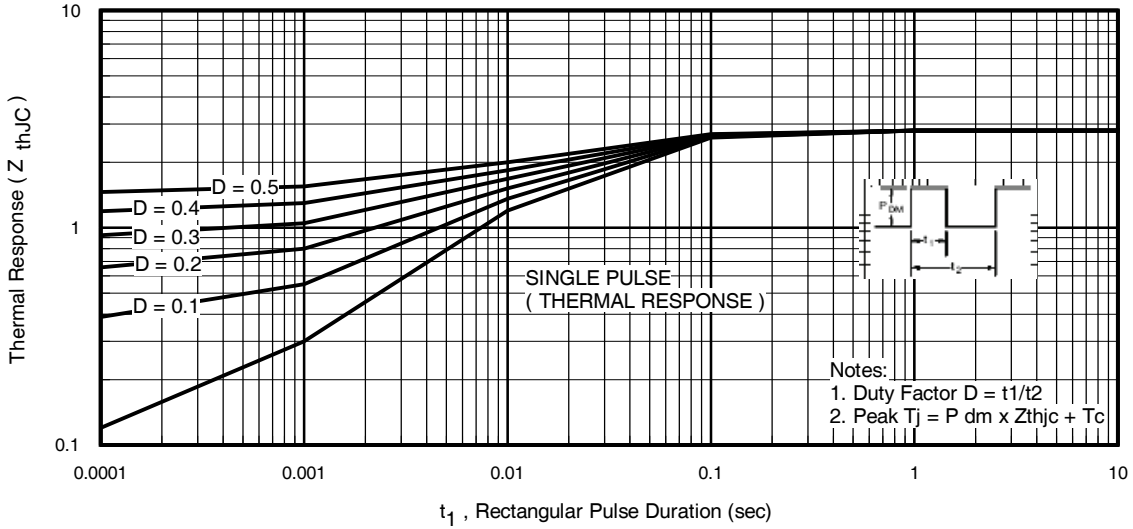


Fig 4. Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

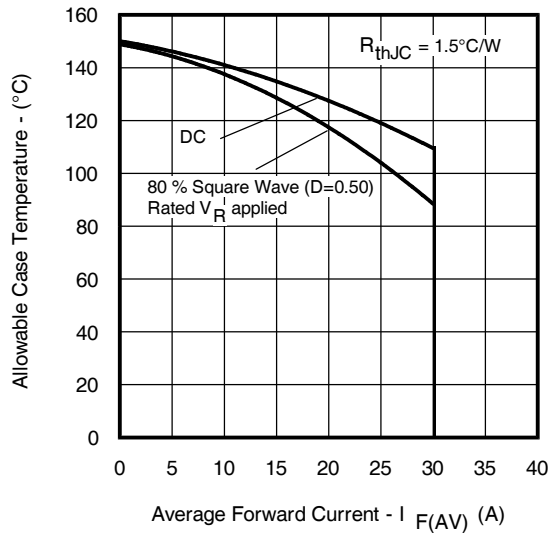


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current (Per Package)

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