



An Infineon Technologies Company

22CGQ045
JANS1N6660CCT1
JANTX1N6660CCT1
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SCHOTTKY RECTIFIER HIGH EFFICIENCY SERIES

30 Amp. 45V

Ref: MIL-PRF- 19500/608

Major Ratings and Characteristics

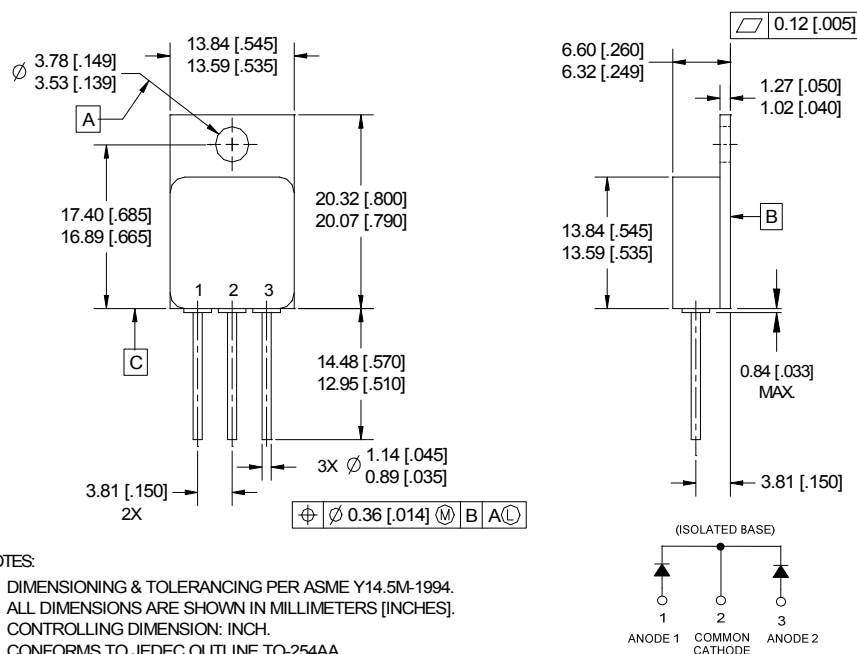
Characteristics	1N6660CCT1	Units
$I_{F(AV)}$	30	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ $t_p = 8.3ms$ half-sine (Per Leg)	300	A
V_F @ 20Apk, $T_J = 125^\circ C$ (Per Leg)	0.70	V
T_J, T_{stg} Operating and storage	-65 to 150	$^\circ C$

Description/Features

The 1N6660CCT1 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 3A per MIL-STD-750, Method 1020

CASE STYLE



Case Outline and Dimensions - TO-254AA

Voltage Ratings

Part Number	1N6660CCT1
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 @ $T_C = 118^\circ\text{C}$, 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	@ $I_F = 15\text{A}$ $T_J = -55^\circ\text{C}$
	0.55	V	@ $I_F = 5.0\text{A}$ $T_J = 25^\circ\text{C}$
	0.75	V	@ $I_F = 15\text{A}$ $T_J = 25^\circ\text{C}$
	1.0	V	@ $I_F = 30\text{A}$ $T_J = 25^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	1.0	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$
	40	mA	$T_J = 125^\circ\text{C}$
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	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-65 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	1.65	$^\circ\text{C/W}$	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	0.85	$^\circ\text{C/W}$	DC operation
Wt Weight (Typical)	9.3	g	
Die Size (Typical)	150 x 150	mils	
Case Style	TO-254AA		

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

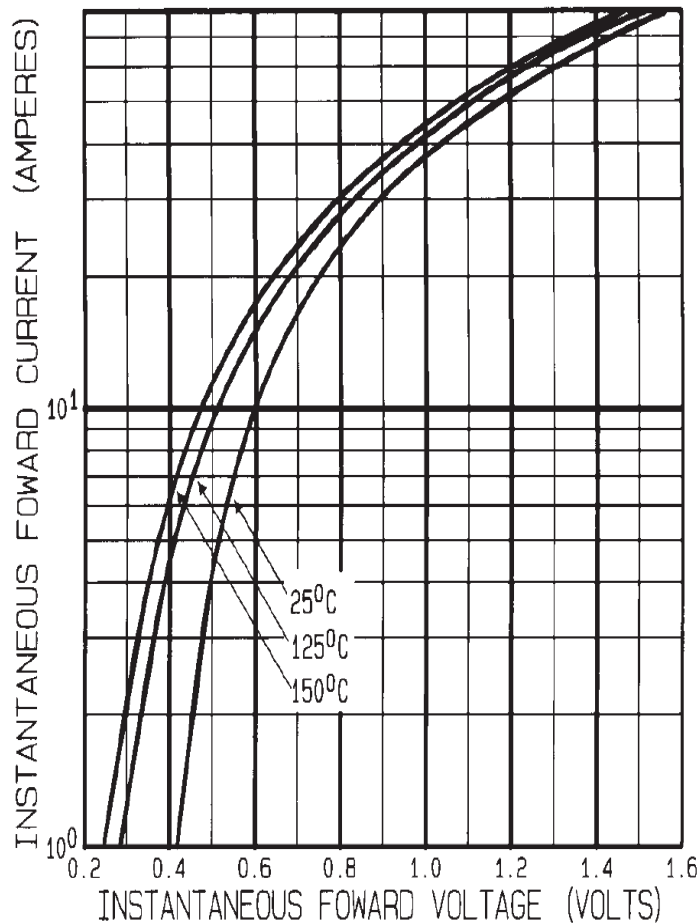


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

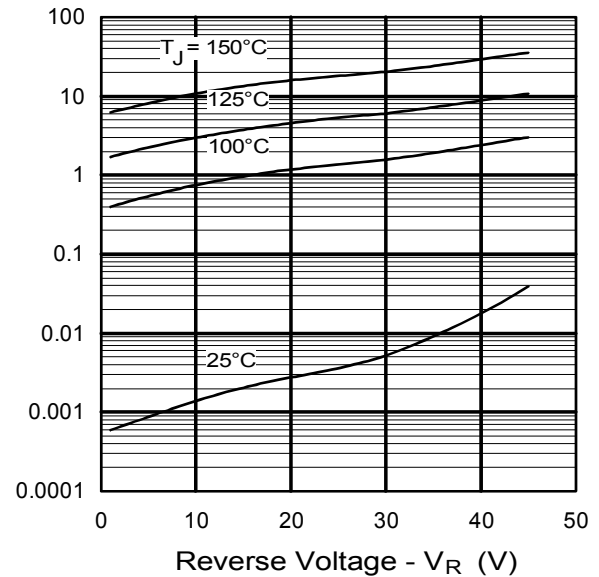


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

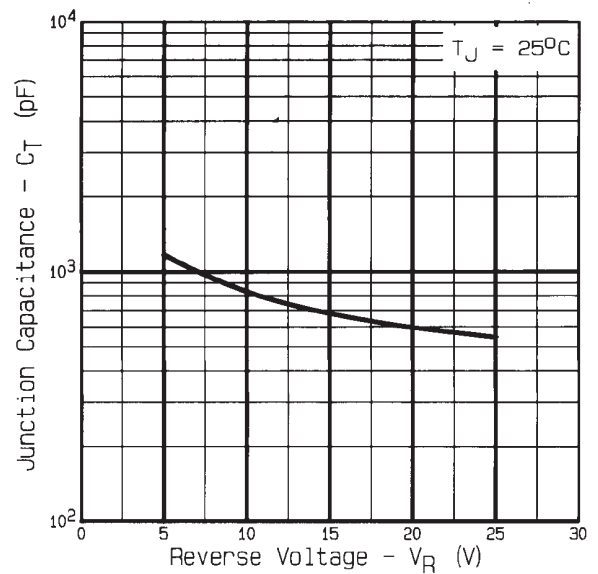


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

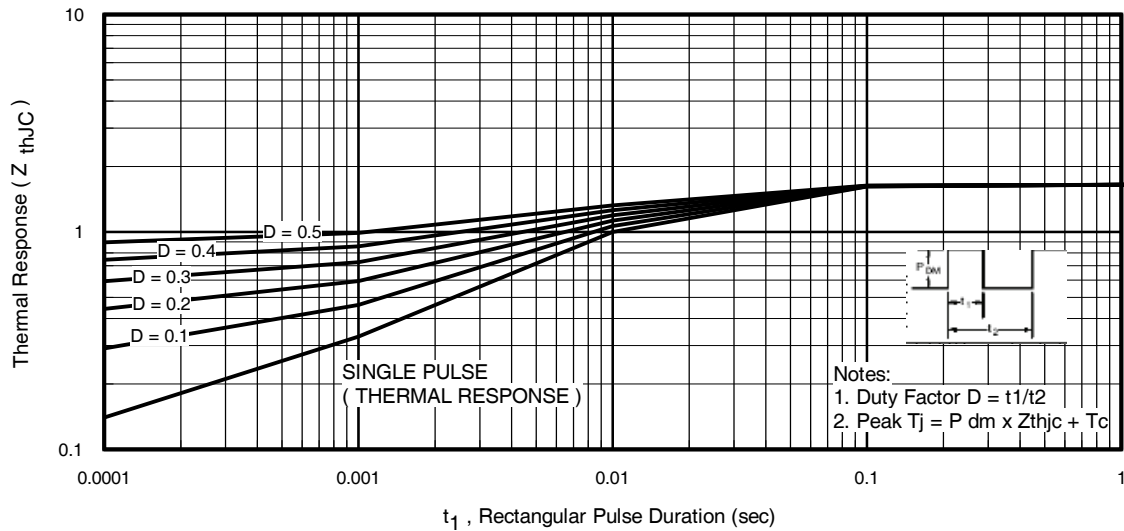


Fig 4. Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

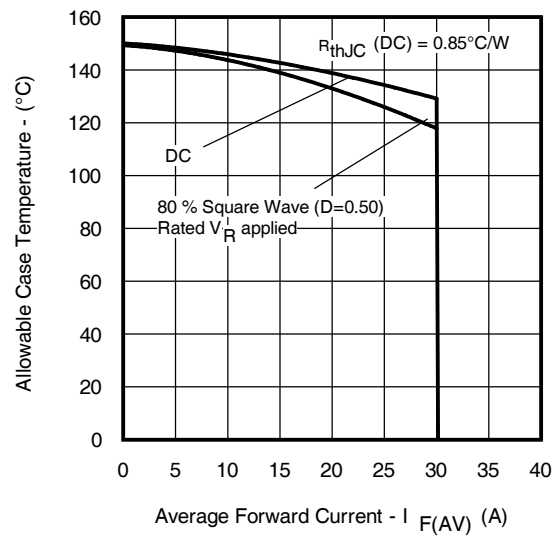


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current (Per Package)

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