22DGQ045
JANS1N6660DT1
JANTX1N6660DT1
JANTXV1N6660DT1

An Infineon Technologies Company

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

30 Amp. 45V

Ref: MIL-PRF– 19500/608

Major Ratings and Characteristics

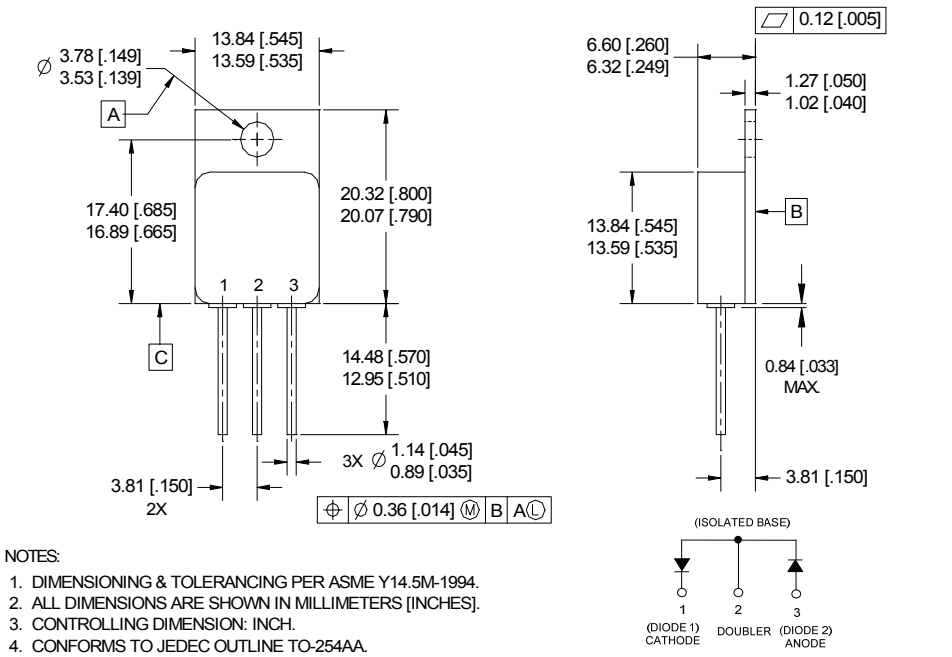
Characteristics	1N6660DT1	Units
$I_{F(AV)}$	30	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half–sine (Per Leg)	300	A
V_F @ 20Apk, T_J = 125°C (Per Leg)	0.70	V
T_J, T_{stg} Operating and storage	-65 to 150	°C

Description/Features

The 1N6660DT1 Doubler 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



NOTES:
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994.
2. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
3. CONTROLLING DIMENSION: INCH.
4. CONFORMS TO JEDEC OUTLINE TO-254AA.

Case Outline and Dimensions - TO-254AA

Voltage Ratings

Part Number	1N6660DT1
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. 6	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	@ tp = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1①	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 Diode 1 (Cathode) to Case	2.8	°C/W	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction Diode 2 (Anode) to Case	1.65	°C/W	DC operation See Fig. 5
R_{thJC} Max. Thermal Resistance, Junction Diode 2 (Anode) to Case (Per Package)	1.50	°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%

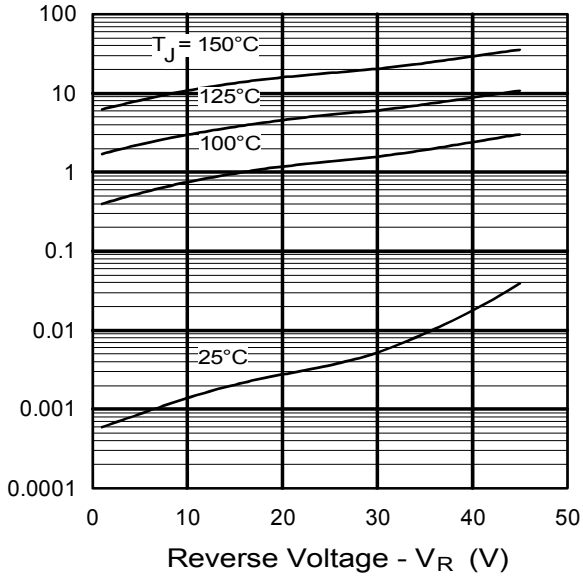


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

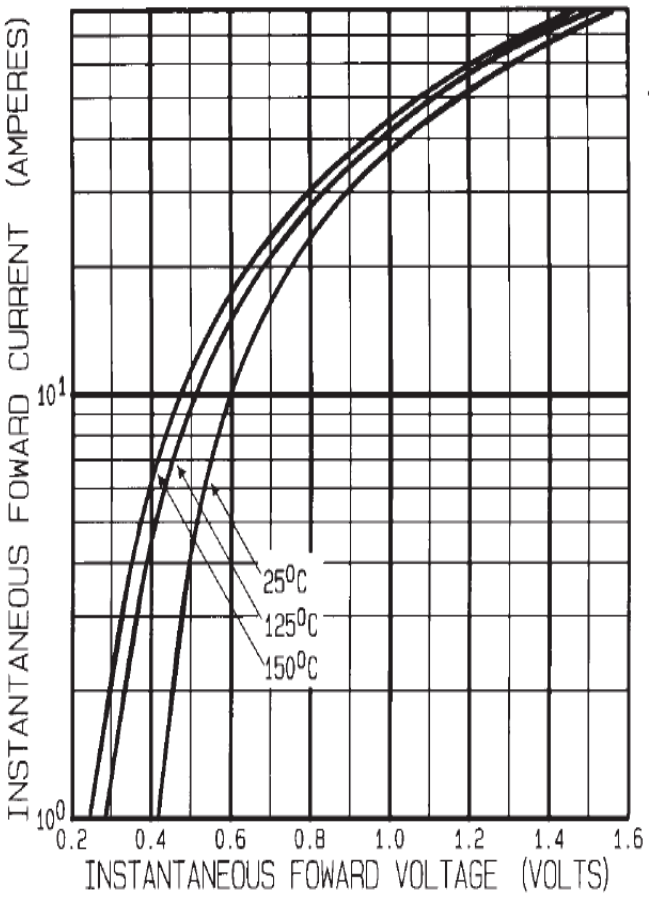


Fig 1. Max. Forward Voltage Drop Characteristics

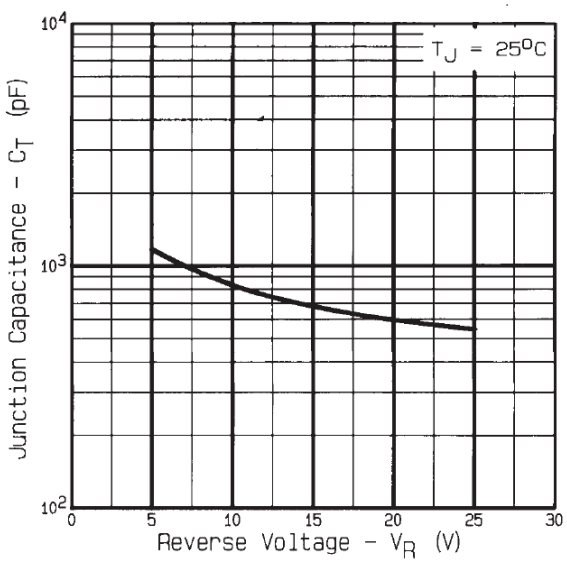


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

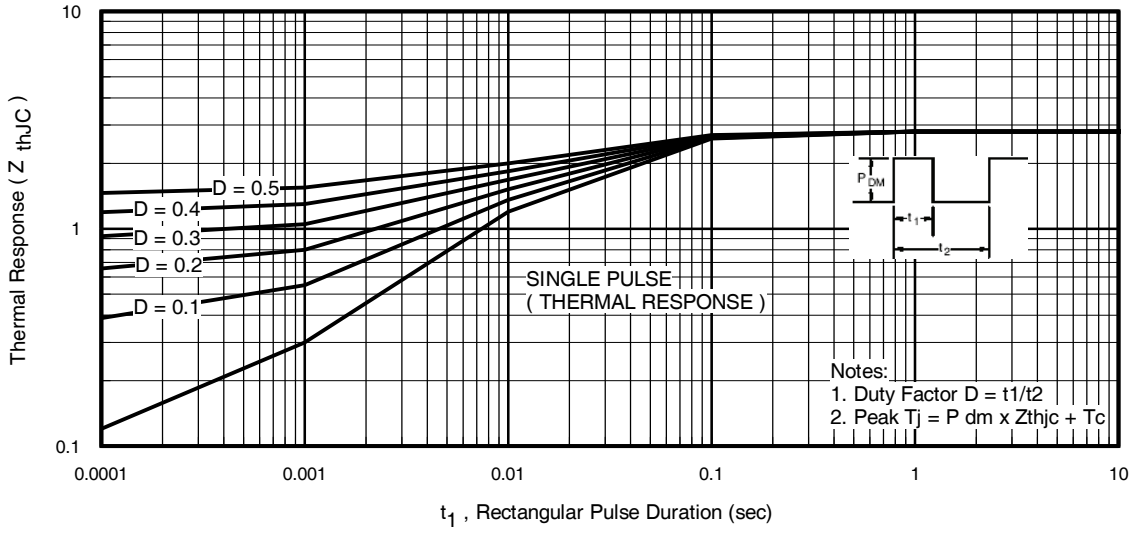


Fig 4. Max. Thermal Impedance Z_{thJC} Characteristics (Diode 1)

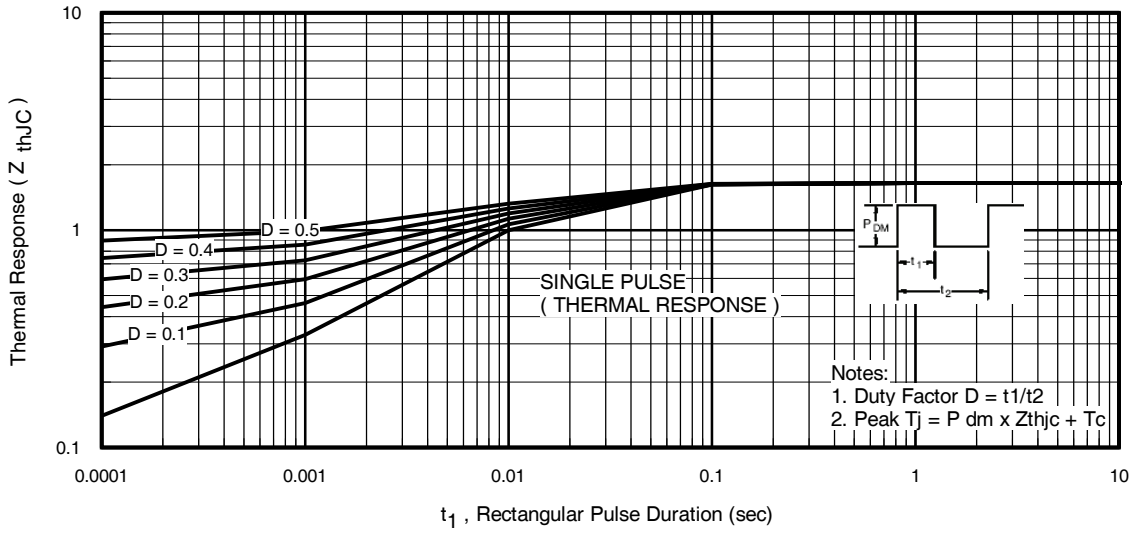


Fig 5. Max. Thermal Impedance Z_{thJC} Characteristics (Diode 2)

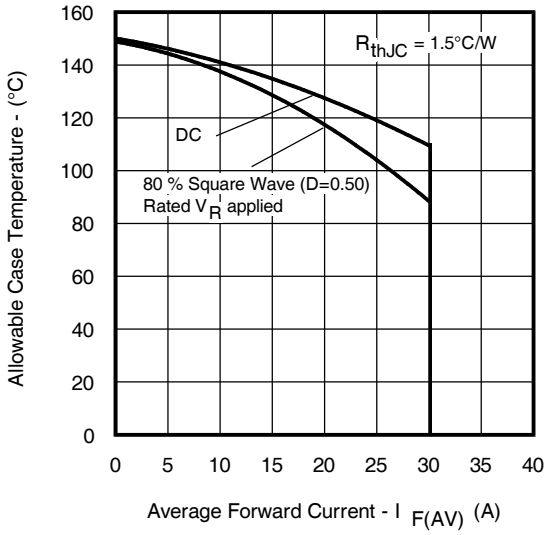


Fig 6. Max. Allowable Case Temperature Vs. Average Forward Current (Per Package)

IR HiRel Headquarters: 101 N. Sepulveda Blvd., El Segundo, California 90245, USA Tel: (310) 252-7105
IR HiRel Leominster: 205 Crawford St., Leominster, Massachusetts 01453, USA Tel: (978) 534-5776
IR HiRel San Jose: 2520 Junction Avenue, San Jose, California 95134, USA Tel: (408) 434-5000

IMPORTANT NOTICE

The information given in this document shall be in no event regarded as guarantee of conditions or characteristic. The data contained herein is a characterization of the component based on internal standards and is intended to demonstrate and provide guidance for typical part performance. It will require further evaluation, qualification and analysis to determine suitability in the application environment to confirm compliance to your system requirements.

With respect to any example hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind including without limitation warranties on non- infringement of intellectual property rights and any third party.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's product and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of any customer's technical departments to evaluate the suitability of the product for the intended applications and the completeness of the product information given in this document with respect to applications.

For further information on the product, technology, delivery terms and conditions and prices, please contact your local sales representative or go to (www.infineon.com/hirel).

WARNING

Due to technical requirements products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.