

Voltage Ratings

Part number	1N7039CCT1
V_R Max. DC Reverse Voltage (V) (Per Leg)	150
V_{RWM} Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

Parameters	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	35	A	50% duty cycle @ $T_C = 74^\circ\text{C}$, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	180	A	@ $t_p = 8.3$ ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	1.35	V	@ 15A $T_J = -55^\circ\text{C}$
	1.13	V	@ 15A $T_J = 25^\circ\text{C}$
	1.60	V	@ 35A $T_J = 25^\circ\text{C}$
	0.86	V	@ 15A $T_J = 125^\circ\text{C}$
	1.20	V	@ 35A $T_J = 125^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.5	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$
	15	mA	$T_J = 125^\circ\text{C}$
C_T Max. Junction Capacitance (Per Leg)	350	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 (0.025 in.) from package.

Thermal-Mechanical Specifications

Parameters	Limits	Units	Conditions
T_J Max. Junction Temperature Range	-65 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-65 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	1.9	$^\circ\text{C/W}$	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	0.95	$^\circ\text{C/W}$	DC operation
wt Weight (Typical)	9.3	g	
Die Size	125X125	mils	
Case Style	TO-254AA		

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

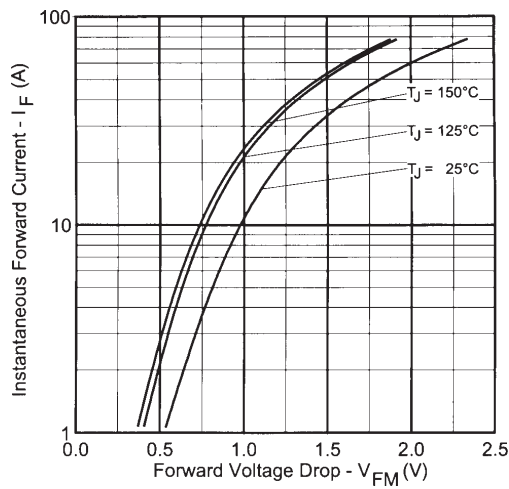


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

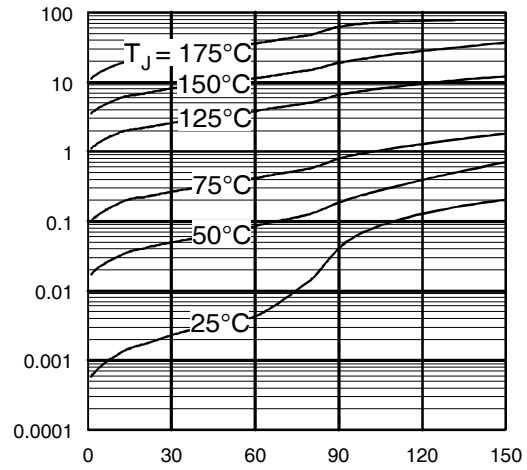


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

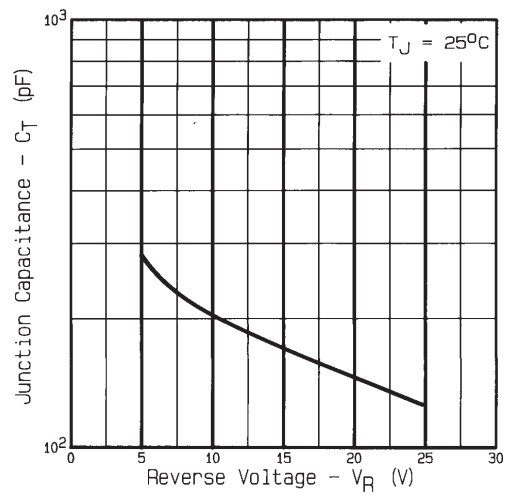
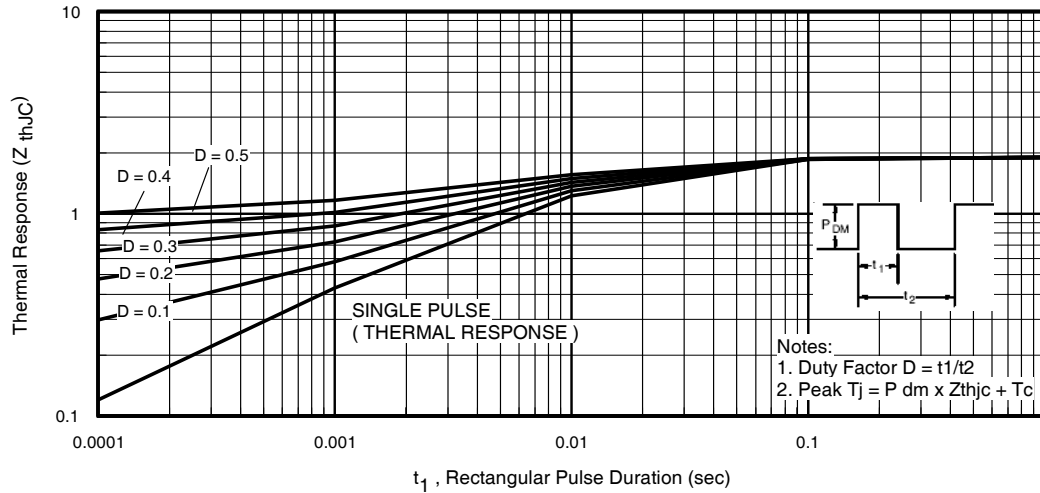
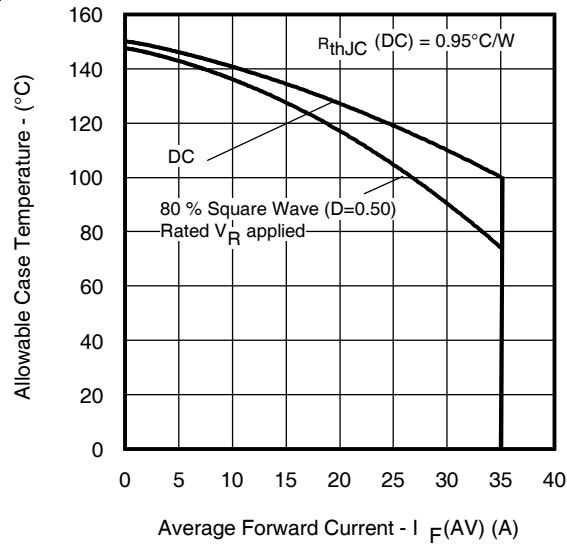


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current (Per Package)International
IOR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105

IR LEOMINSTER : 205 Crawford St., Leominster, Massachusetts 01453, USA Tel: (978) 534-5776

TAC Fax: (310) 252-7903

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