

**FEATURES**

- Double Side Cooling
- High Surge Capability
- High Mean Current
- Fatigue Free

**TYPICAL APPLICATIONS**

- High Power Drives
- High Voltage Power Supplies
- DC Motor Control
- Welders

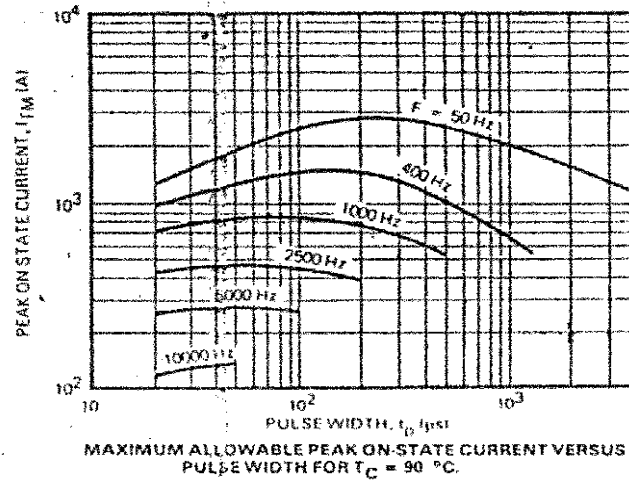
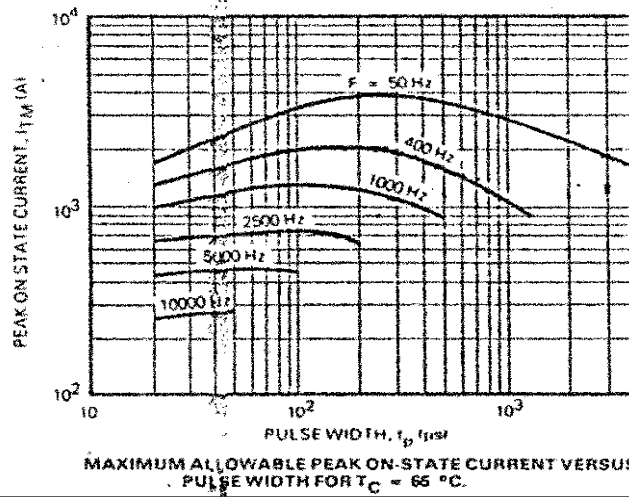
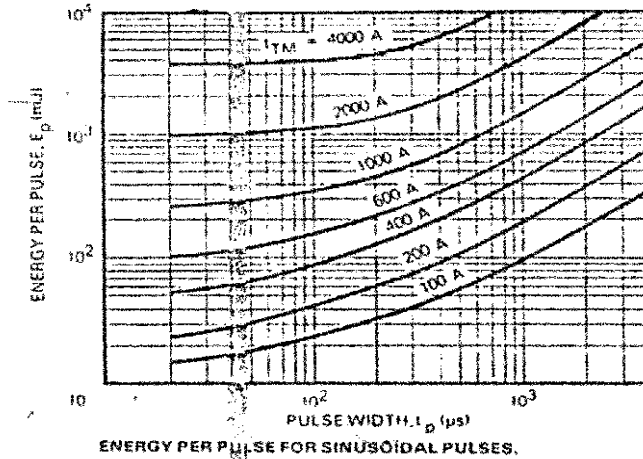
**TECHNICAL DATA**

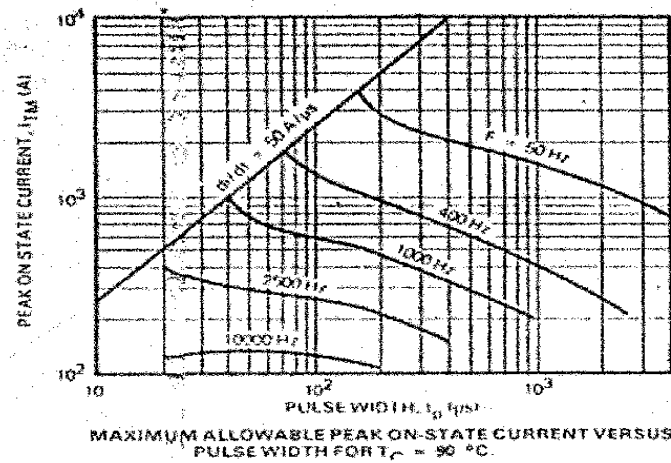
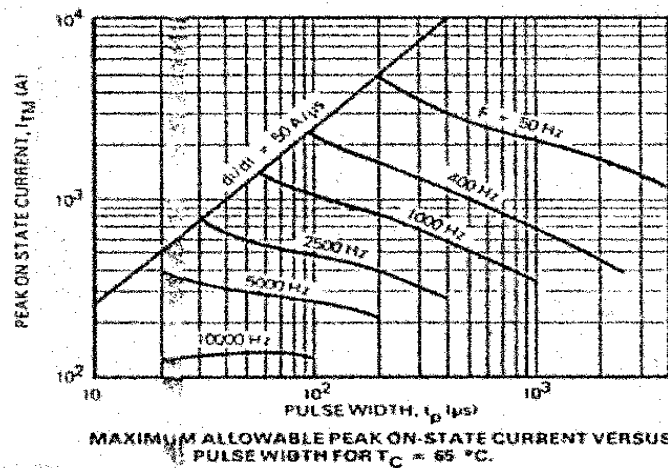
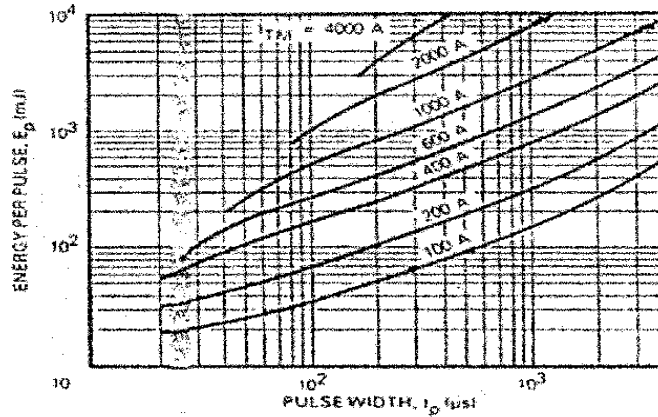
DEVICE TYPE	V <sub>DRM</sub> /V <sub>RRM</sub> (V)	V <sub>RSM</sub> (V)
<b>DCR444ST0404</b>	<b>400</b>	<b>500</b>
<b>DCR444ST1212</b>	<b>1200</b>	<b>1300</b>
<b>DCR444ST1414</b>	<b>1400</b>	<b>1500</b>

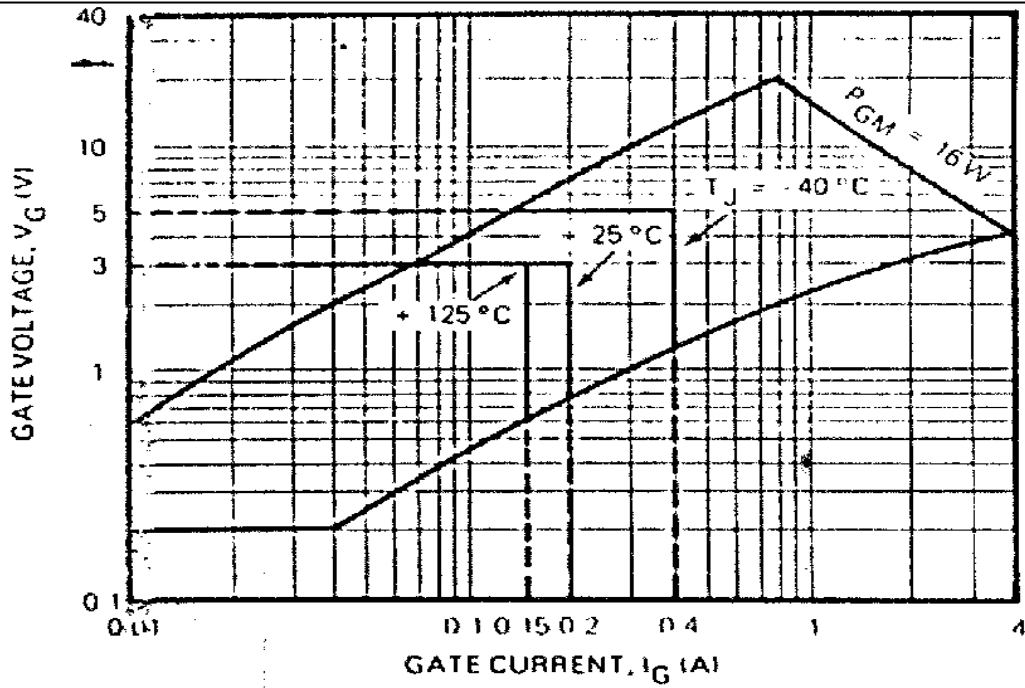


Symbol	Conditions	Values
I <sub>T(AV)</sub>	Half wave resistive load T <sub>c</sub> = 80 °C	280 A
I <sub>TSM</sub>	T <sub>vj</sub> = 125 °C; 10 ms half sine, V <sub>R</sub> =0	5000 A.
I <sup>2</sup> T	T <sub>vj</sub> = 125 °C; 10 ms half sine, V <sub>R</sub> =0	125000 A <sup>2</sup> s
I <sub>GT</sub>	T <sub>vj</sub> = 25 °C; V <sub>DRM</sub> = 5V	200 mA
V <sub>GT</sub>	T <sub>vj</sub> = 25 °C; V <sub>DRM</sub> = 5V	3.0V
dv/dt	T <sub>vj</sub> = 125 °C; Voltage = 67% V <sub>DRM</sub>	*200 V/μs
[di/dt] <sub>cr</sub>	Repetitive 50 Hz	500 A/μs
	Non-repetitive	800 A/μs
t <sub>q</sub>	T <sub>vj</sub> = 25 °C; I <sub>T</sub> = 200 A; V <sub>R</sub> = 50 V dv/dt = 200 V/μs di/dt = 30 A/μs	7-40 μs
V <sub>T</sub>	T <sub>vj</sub> = 25 °C; I <sub>T</sub> = 600 A	2.0 V max
I <sub>RRM</sub> /I <sub>DRM</sub>	T <sub>vj</sub> = 125 °C	25 mA
I <sub>H</sub>	T <sub>vj</sub> = 125 °C; typical value	70 mA
I <sub>L</sub>		200 mA
R <sub>th(i-h)</sub>	dc	0.07 °C/W
R <sub>th(c-h)</sub>		0.02 °C/W
T <sub>vj</sub>		+125 °C
T <sub>stg</sub>		-40.....+ 125 °C
Mounting Force		4.0-5 KN
Package Outline		T

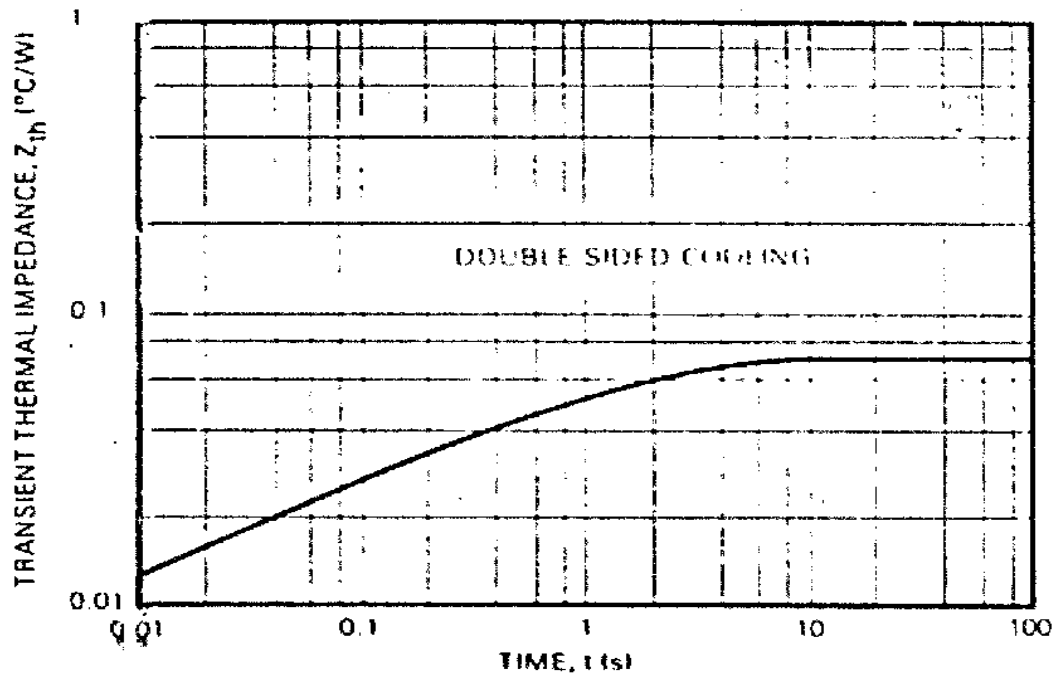
\* Higher dv/dt selection available.



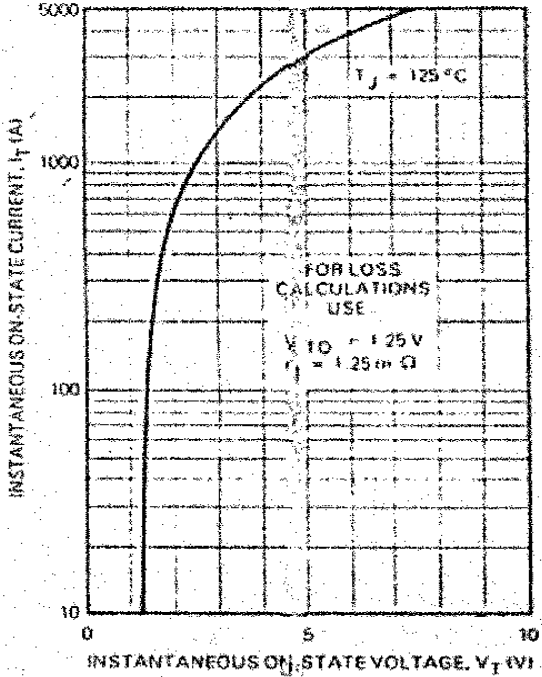




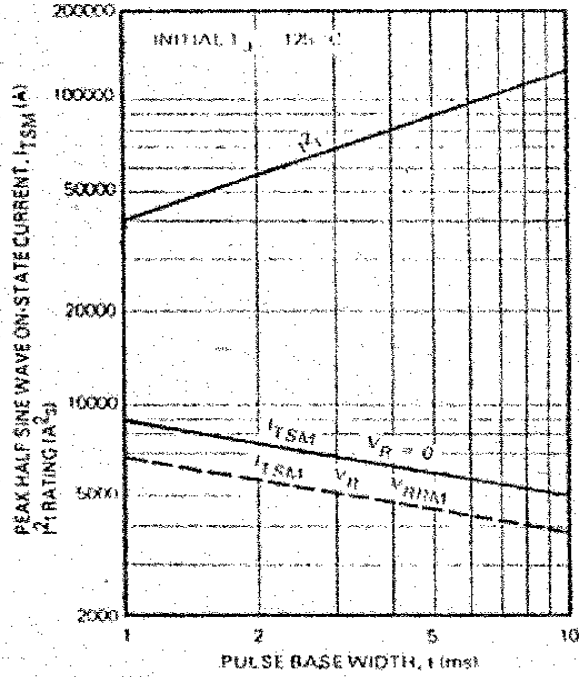
**GATE TRIGGER CHARACTERISTICS**



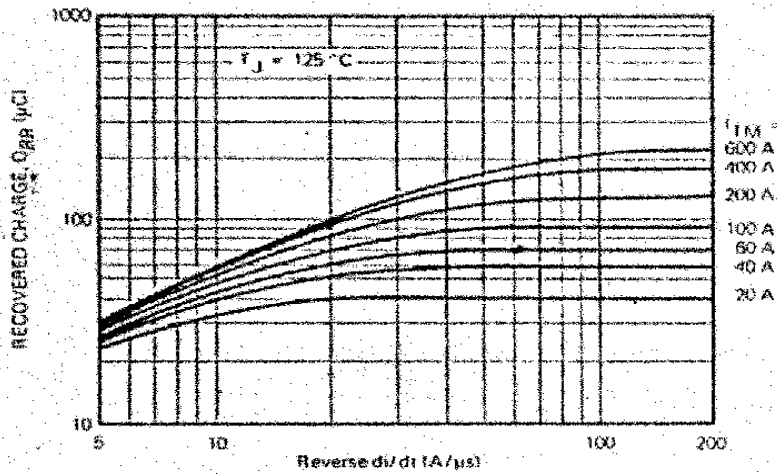
**TRANSIENT THERMAL IMPEDANCE JUNCTION TO CASE**



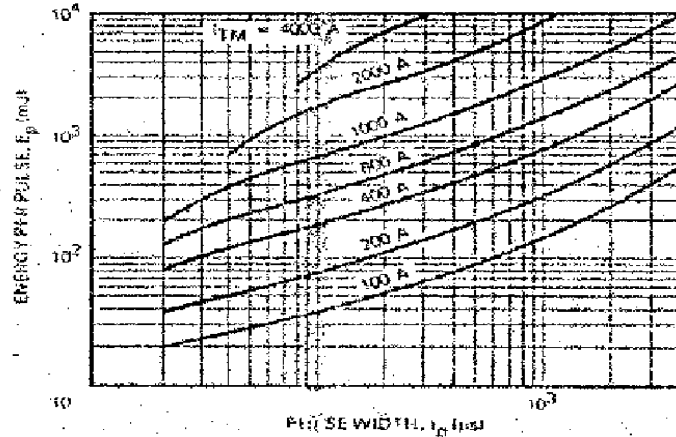
MAXIMUM ON-STATE CONDUCTION CHARACTERISTIC



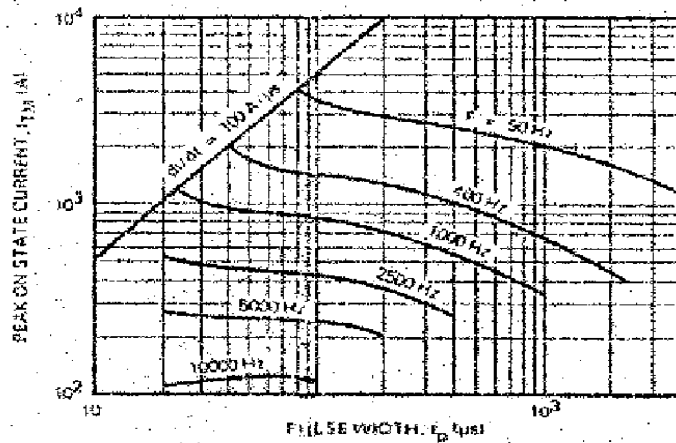
NON REPETITIVE SUB-CYCLE SURGE ON-STATE CURRENT AND  $I^2t$  RATING



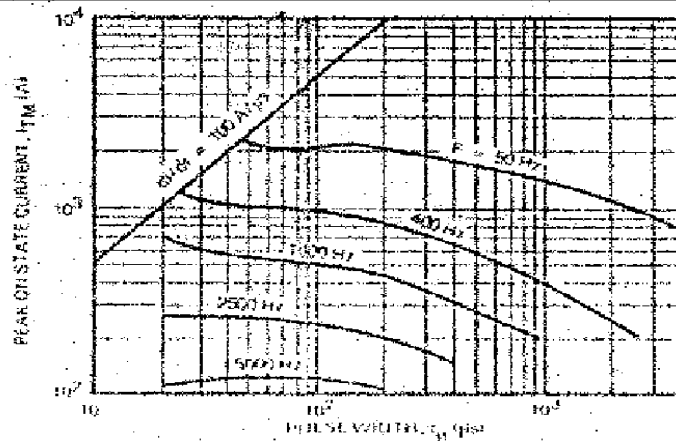
TYPICAL RECOVERED CHARGE  
(FOR A DEVICE RATED  $V_{RRM} = 1800\text{ V}$ ,  $t_q = 20\text{ }\mu\text{s}$ )



ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

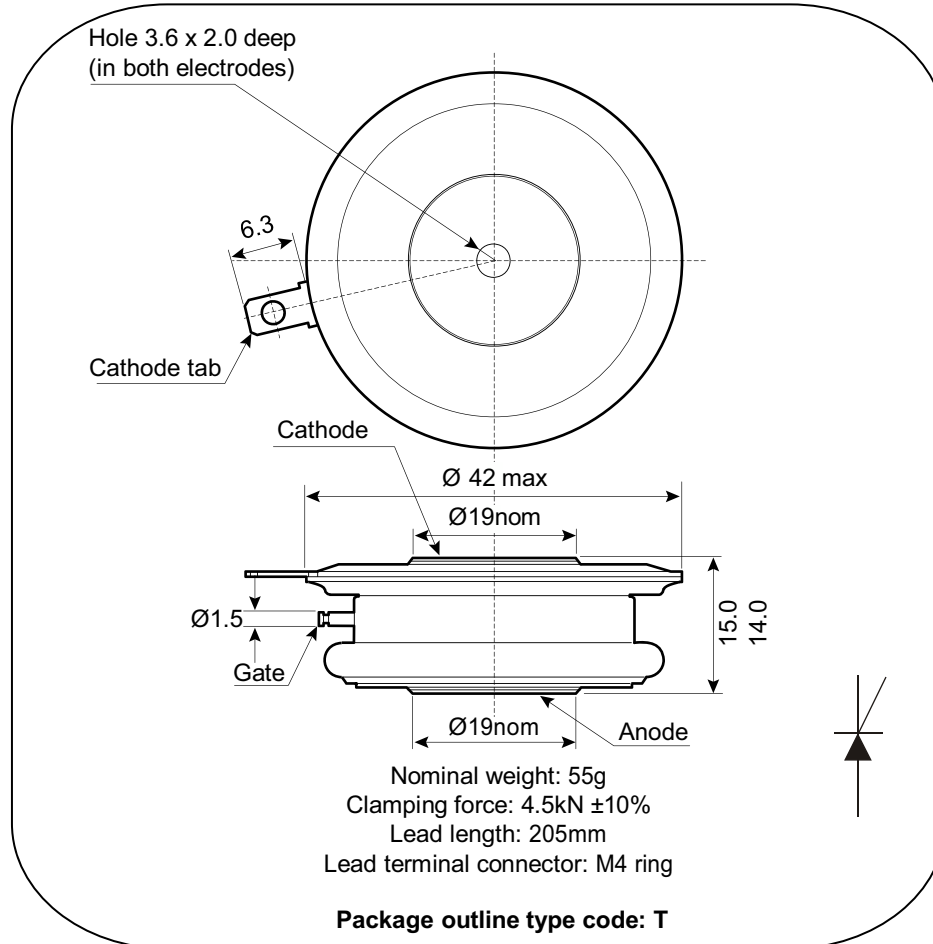


MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT VERSUS PULSE WIDTH FOR  $T_c = 55^\circ\text{C}$



MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT VERSUS PULSE WIDTH FOR  $T_c = 60^\circ\text{C}$

**PACKAGE OUTLINE**



All dimensions are in mm.

**Insel Rectifiers (India) Pvt. Ltd.**

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