Thyristors
(Fast Switching)
DCR708

Technical Data

Typical applications : High power invertors & choppers, Railway traction, UPS, Induction heating, AC motor drives & Cyclconvertors.

Type No.	V_{RRM} (Volts)	V_{RSM} (Volts)
DCR708/14	1400	1500
DCR708/16	1600	1700
DCR708/18	1800	1900
DCR708/20	2000	2100

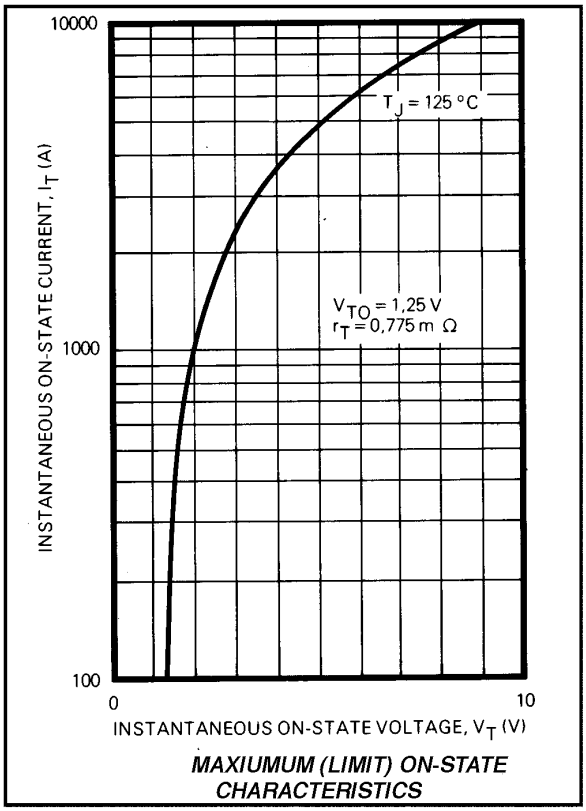
Features

- Double side cooling.
- Voltage grade upto 2000V
- High surge capability.
- Weight 310gm (Approx.)

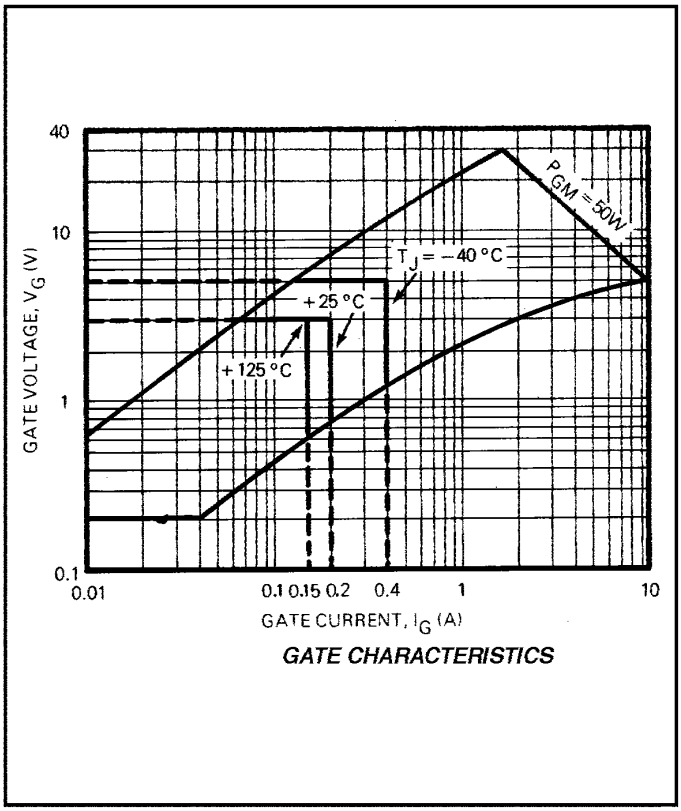
Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load; T_C = 80 ˚C	480 A
I_{TSM}	Tvj = 125 ˚C ; 10 ms half sine, V_R = 0	8.0 KA
I^2t	Tvj = 125 ˚C, 10 ms half sine, V_R = 0	320000 A^2s
I_{GT}	Tvj = 25 ˚C; V_{DRM} = 5V	200 mA
V_{GT}	Tvj = 25 ˚C; V_{DRM} = 5V	3.0 V
dv/dt	Tvj = 125 ˚C; Voltage = 67 % V_{DRM}	*200 V/µs
$[di/dt]_{CR}$	Repetitive 50 Hz	500 A/µs
	Non-repetitive	800 A/µs
t_q	Tvj = 125 ˚C; I_T = 250 A; V_R = 50 V dv/dt = 20 V/µs di/dt = 50 V/µs	40 µs
V_T	Tvj = 25 ˚C; I_T = 2000 A	2.80 V max
V_O	Tvj = 125 ˚C	1.25 V
R_O	Tvj = 125 ˚C	0.77 mΩ
I_{RRM}/I_{DRM}	Tvj = 125 ˚C	60 mA
I_H	V_D = 12V; Tvj = 25 ˚C; Typical value	100 mA
I_L	Tvj = 25 ˚C; Typical value	300 mA
$R_{th(j-c)}$	dc	0.040 ˚C/W
$R_{th(c-h)}$		0.010 ˚C/W
T_{vj}		+125 ˚C
T_{stg}		-40....+125 ˚C
Mounting Force		12.5 - 15 KN
Case outline		G

* Higher dv/dt selection available.

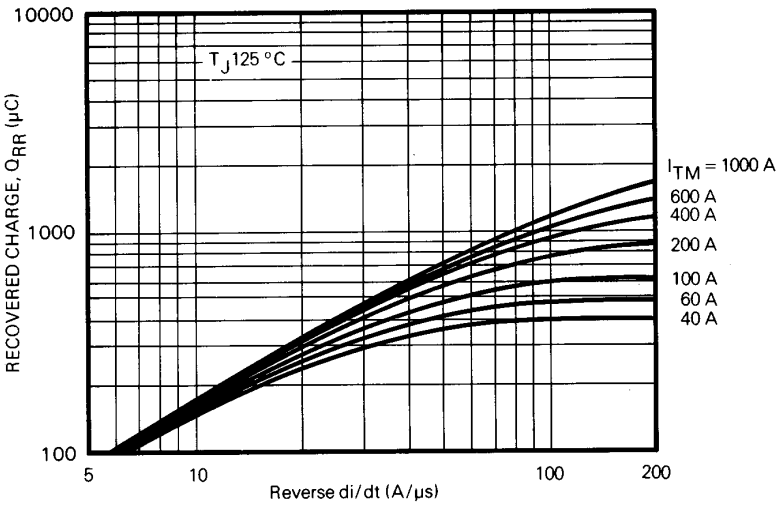
CURVES



MAXIUMUM (LIMIT) ON-STATE CHARACTERISTICS

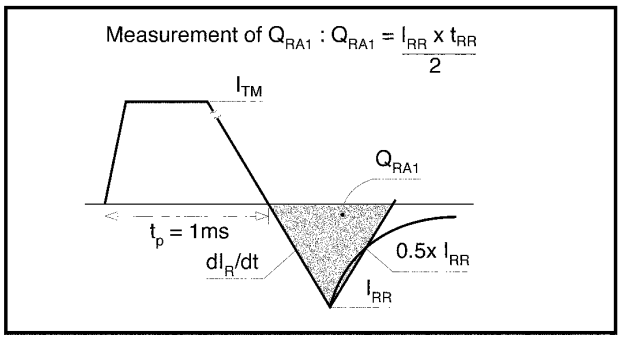


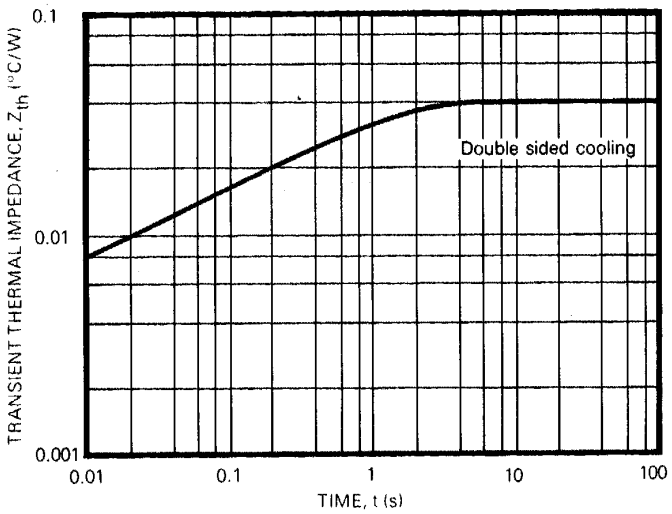
GATE CHARACTERISTICS



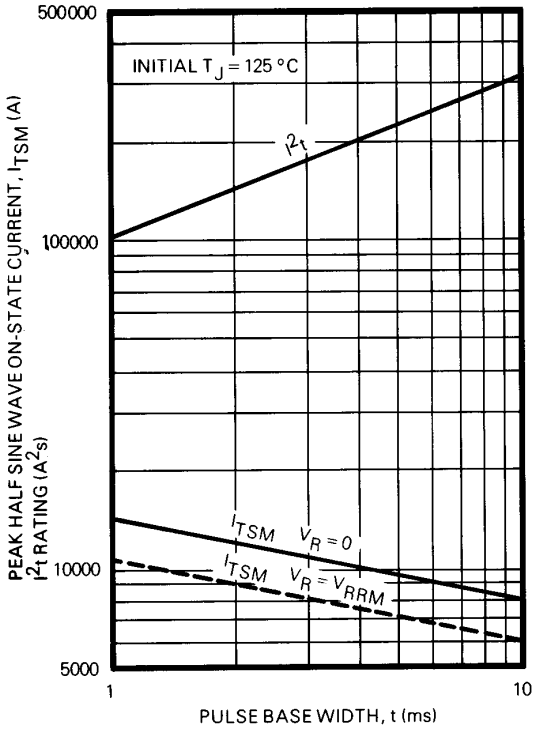
TYPICAL RECOVERED CHARGE (TRAPEZOIDAL CURRENT WAVEFORM)

MEASUREMENT OF RECOVERED CHARGE - Q_{RA1}

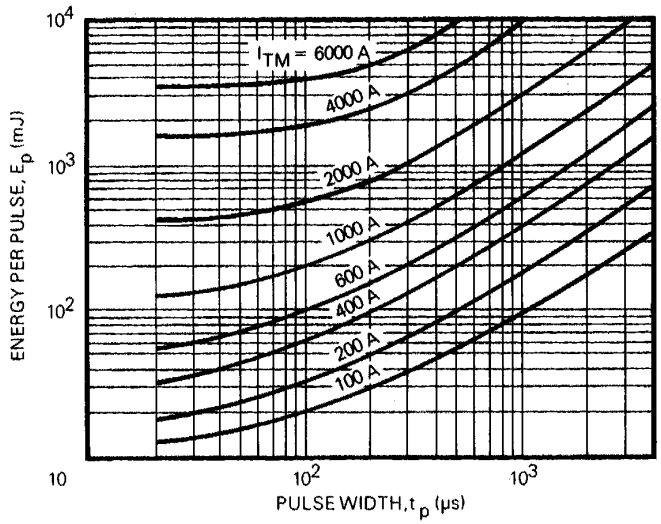




TRANSIENT THERMAL IMPEDANCE - JUNCTION TO CASE

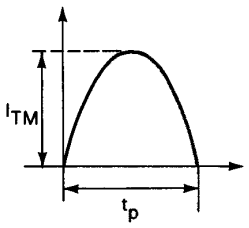


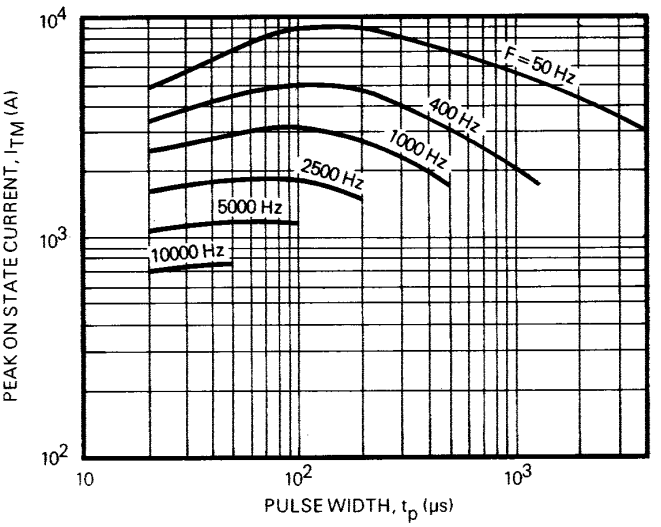
NON-REPETITIVE SUB-CYCLE SURGE ON-STATE CURRENT AND I2t RATING



ENERGY PER PULSE FOR SINUSOIDAL PULSES

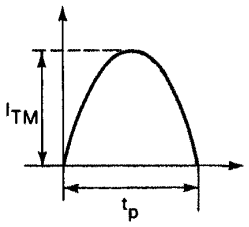
NOTES:
1. $V_D \leq 600V$.
2. $V_R \leq 10V$.
3. R.C Snubber, C = 0.22μF, R = 4.7Ω

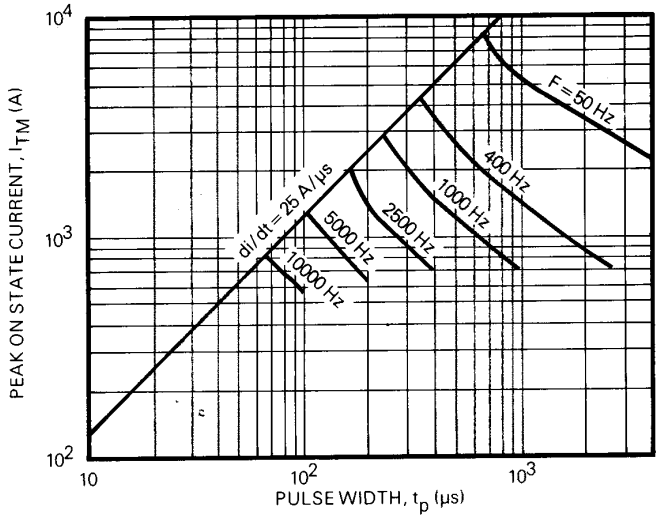




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 65°C

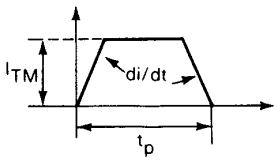
NOTES:
1. $V_D \leq 600V$.
2. $V_R \leq 10V$.
3. R.C Snubber, C = 0.22μF, R = 4.7Ω

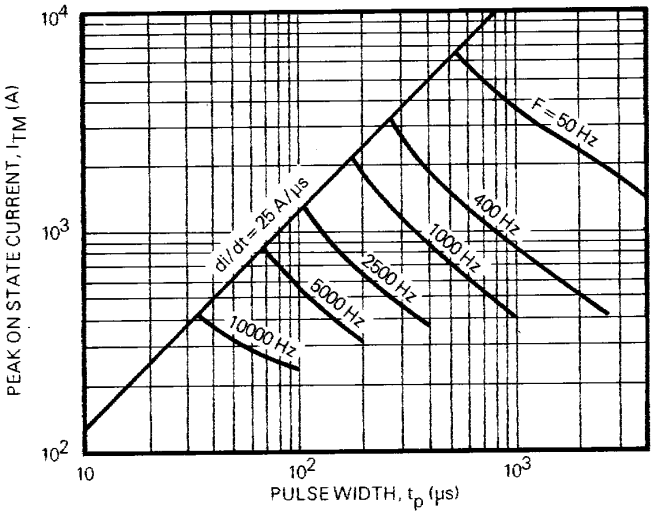




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 65˚C

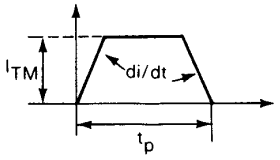
NOTES:
1. dI/dt = 25A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

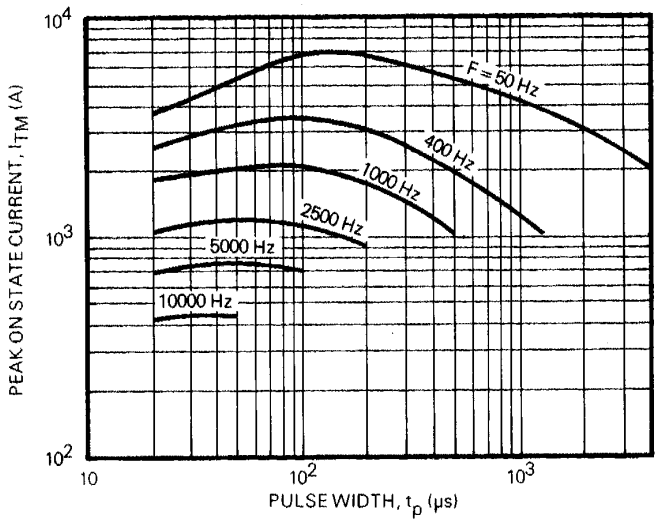




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 90˚C

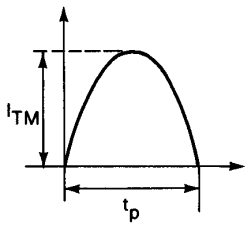
NOTES:
1. dI/dt = 25A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

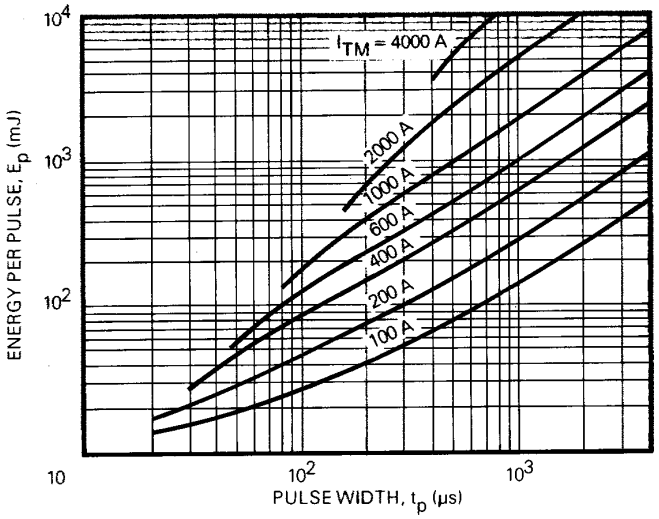




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 90°C

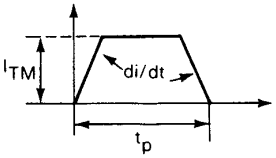
NOTES:
1. $V_D \leq 600V$.
2. $V_R \leq 10V$.
3. R.C Snubber, C = 0.22μF, R = 4.7Ω

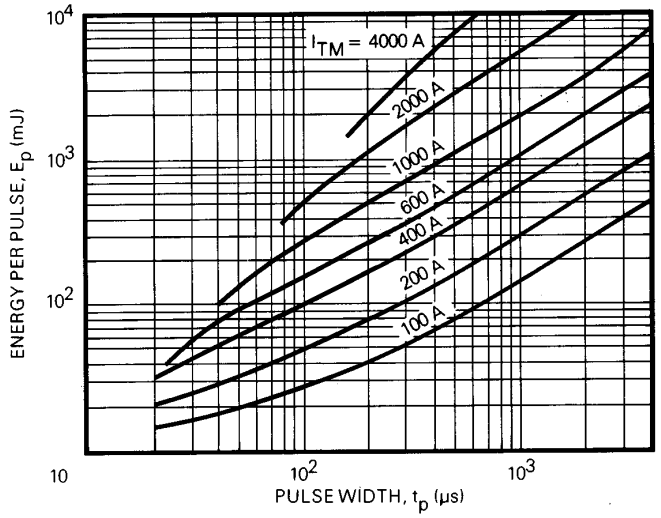




ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

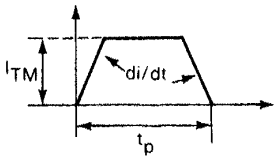
NOTES:
1. dI/dt = 25A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

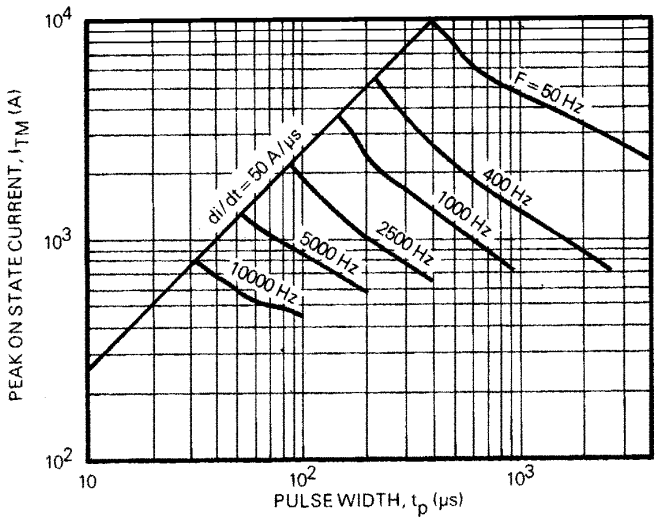




ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

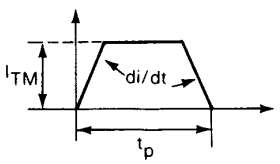
NOTES:
1. dI/dt = 50A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

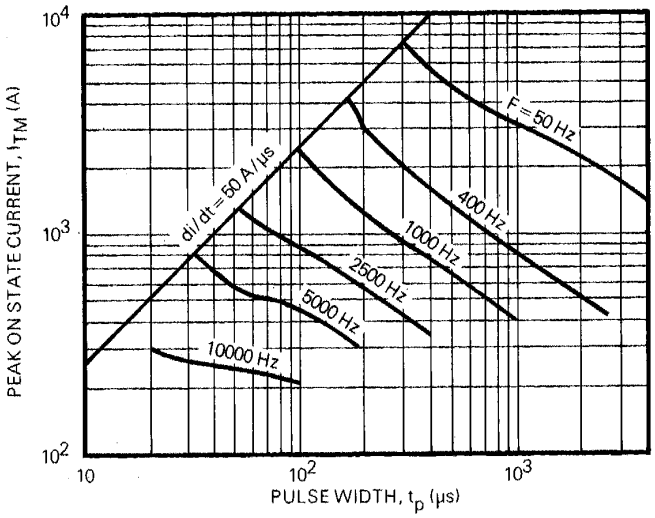




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 65°C

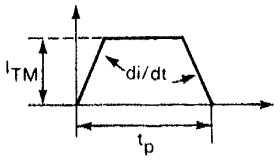
NOTES:
1. dI/dt = 50A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

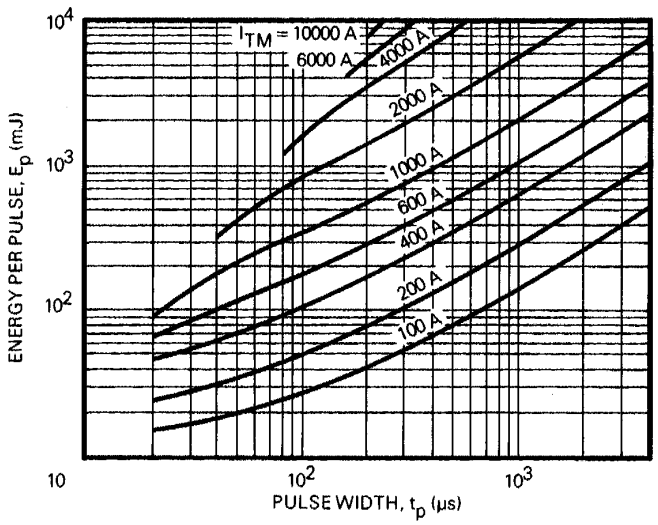




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 90°C

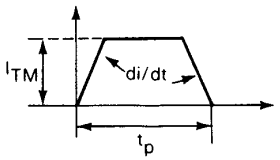
NOTES:
1. dI/dt = 50A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

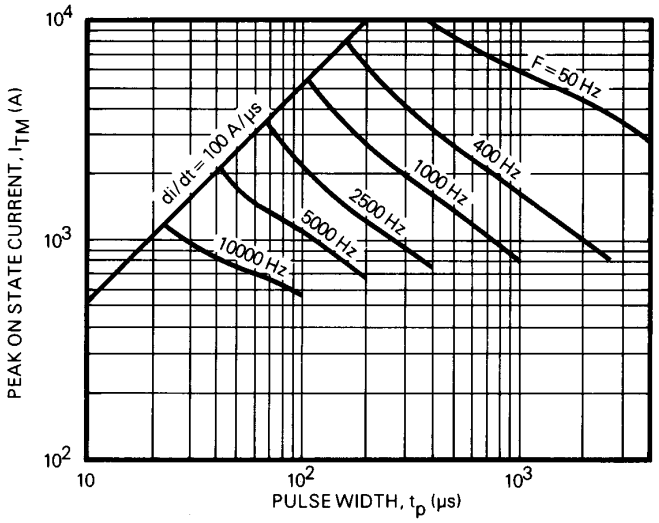




ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

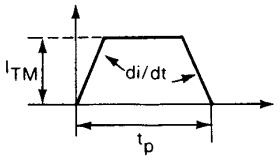
NOTES:
1. dI/dt = 100A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω

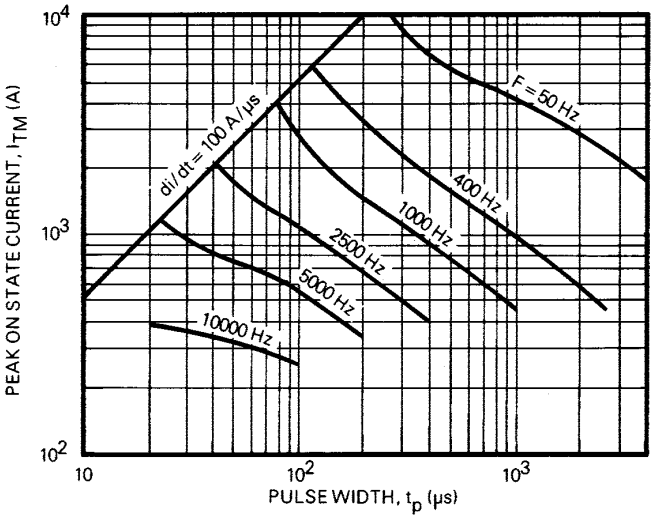




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 65˚C

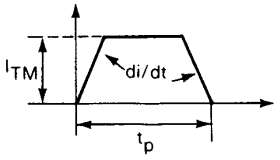
NOTES:
1. dI/dt = 100A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω





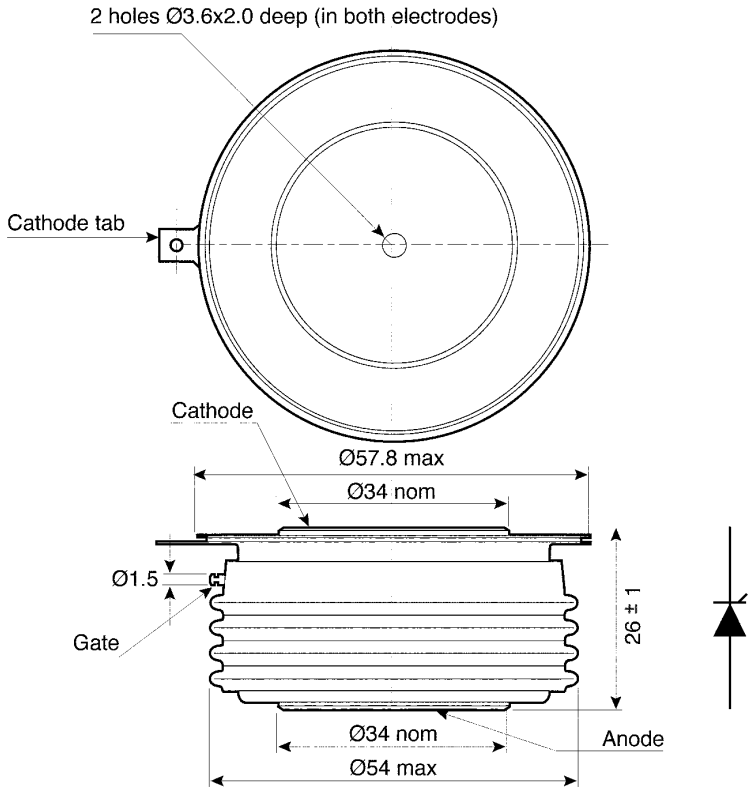
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR Tc = 90˚C

NOTES:
1. dI/dt = 100A/μs
2. $V_D \leq 600V$.
3. $V_R \leq 10V$.
4. R.C Snubber, C = 0.22μF, R = 4.7Ω



PACKAGE DETAILS

DO NOT SCALE



Nominal weight: 310g
Clamping force: 12.5 - 15 kN

All dimensions in mm

Package outine : G