

Thyristors (Fast Switching) DCR1059



Technical Data

Typical applications : UPS, Induction heating, A.C. Motors; etc.

Type No.	V_{RRM} (Volts)	V_{RSM} (Volts)
DCR1059/18	1700	1800
DCR1059/21	2000	2100

Features

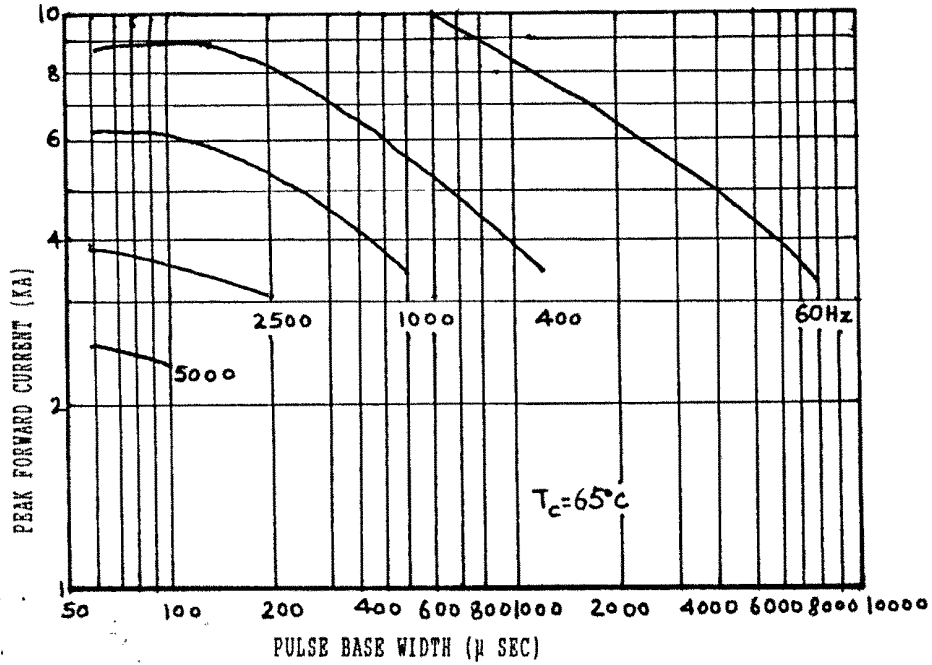
- Integrated Amplifying Gate.
- High di/dt & dv/dt Rating.

Symbol	Conditions	Values
$I_{T(AV)}$	50 Hz Half wave resistive load $T_C = 80^\circ C$	1080 A
I_{RMS}	RMS Value	1700 A
$R_{th(i-h)}$	Thermal resistance junction to heat sink surface	0.028 $^\circ C/W$
I^2T	Fusing at max T_{vj} 10 ms half sine	1620000 A^2s
I_{TSM}	Surge current at max. T_{vj} & 50% V_{RRM} 10ms	18.0 KA
di/dt	Rate of rise of on state current	800 A/ μS
dv/dt	Rate of rise of on state voltage	*200V/ μS
I_{RRM}/I_{DRM}	$T_{vj} = 125^\circ C$	60 mA max
T_{vj}	Vertical junction temperature	125 $^\circ C$
T_{STG}	Storage temperature range	-40 to + 125 $^\circ C$
V_{TM}	$T_{vj} = 25^\circ C$; $I_{TM} = 1000 A$	1.45 V max
Tq	Turn off time $I_T = 1000A, V_R = 50V, 80\% V_{DRM}$ reapplied, dv/dt = 400 V/ μS	50 μS
I_{GT}	Gate trigger voltage $T_{vj} = 25^\circ C$	350 mA
V_{GT}	Gate trigger voltage $T_{vj} = 25^\circ C$	3.0V
Mounting Force		18-20 KN
Weight	Approx.	500 g
Case outline		F

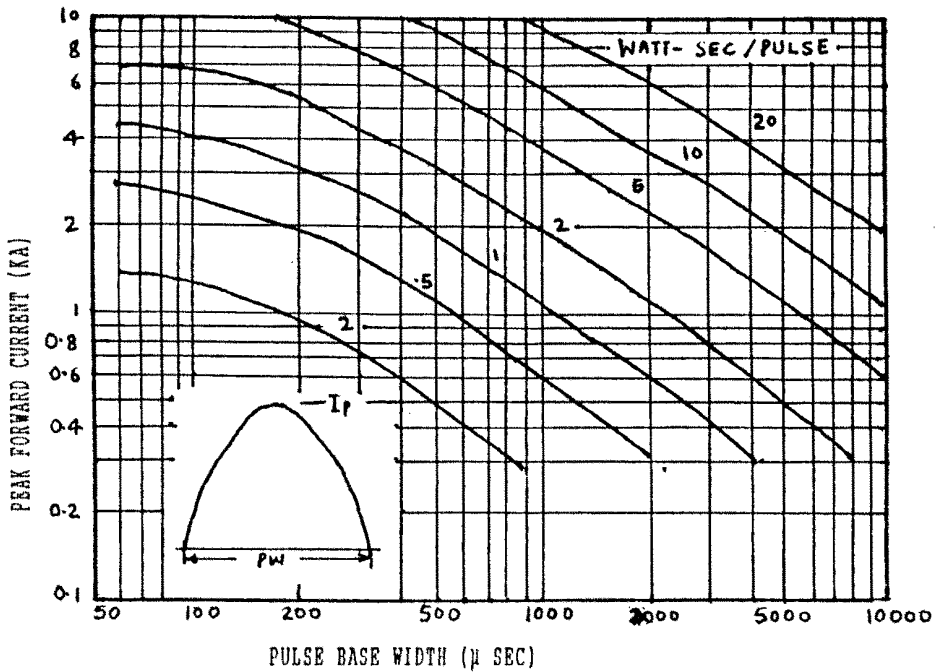
* Higher dv/dt selection available.



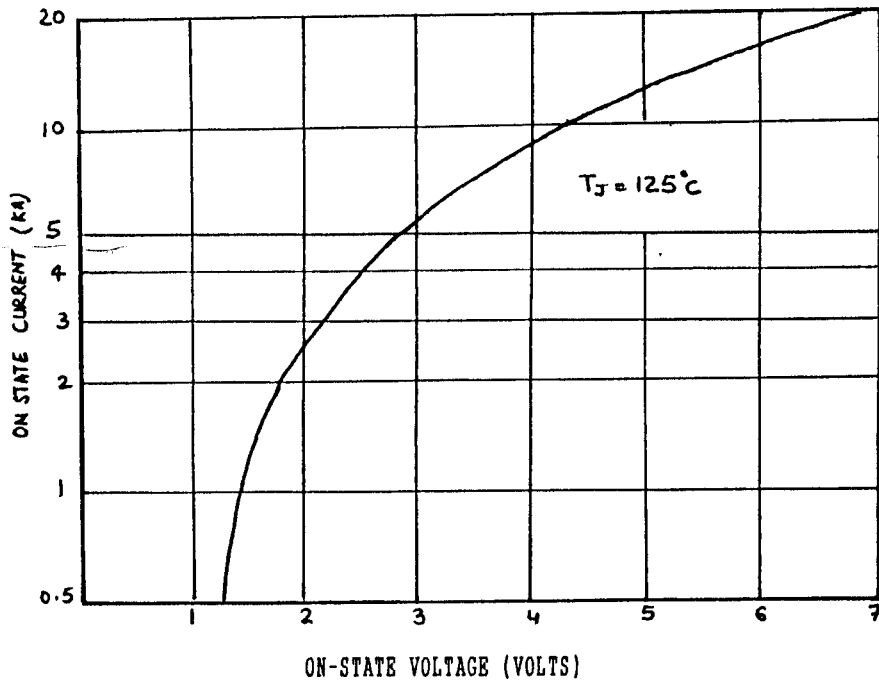
SINUSOIDAL CURRENT WAVEFORMS



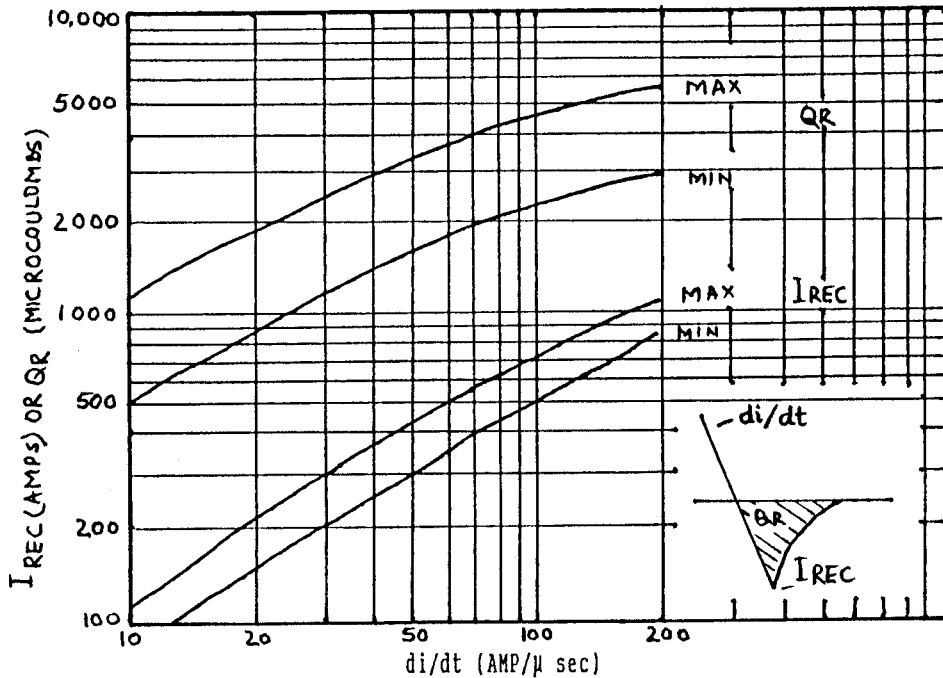
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT Vs. PULSE WIDTH ($T_c = 65^\circ\text{C}$)



ENERGY PER PULSE FOR SINUSOIDAL PULSES

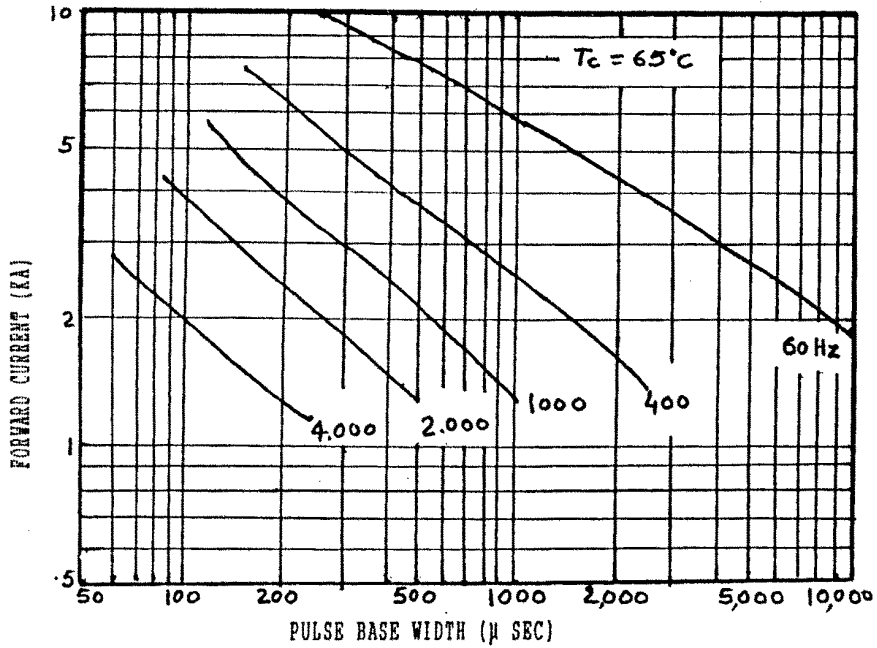


FORWARD CONDUCTION CHARACTERISTIC ON STATE

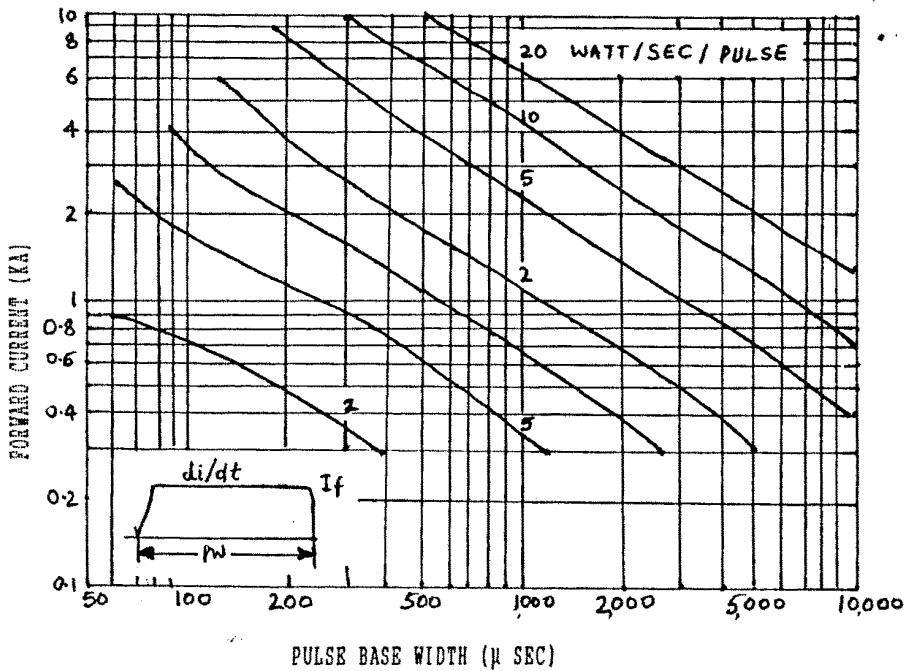


RECOVERED CHARGE (125°C)

TRAPEZOIDAL CURRENT WAVEFORMS



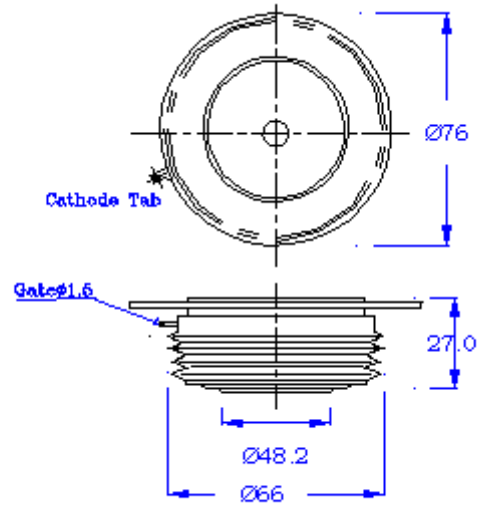
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT FOR TRAPEZOIDAL CURRENT WAVEFORMS FOR ($T_c = 65^\circ\text{C}$) ($di/dt = 100\text{A}/\mu\text{s}$)



ENERGY PER PULSE FOR TRAPEZOIDAL CURRENT WAVEFORMS

PACKAGE DETAILS

DO NOT SCALE



Nominal Weight : 500g
Clamping force : 18-22KN

Case Outline : F