

FEATURES

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

TYPICAL APPLICATIONS

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

TECHNICAL DATA

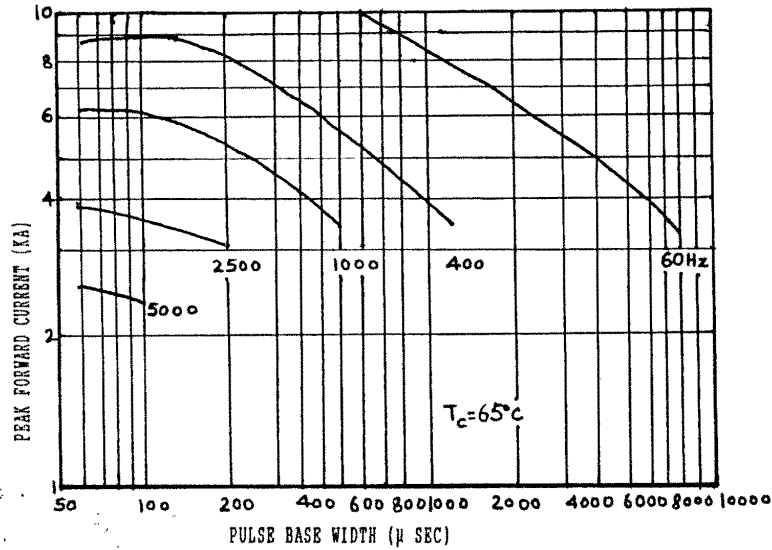
DEVICE TYPE	V_{DRM}/V_{RRM} (V)	V_{RSM} (V)
DCR1059SD1818	1800	1900
DCR1059SD2121	2100	2200



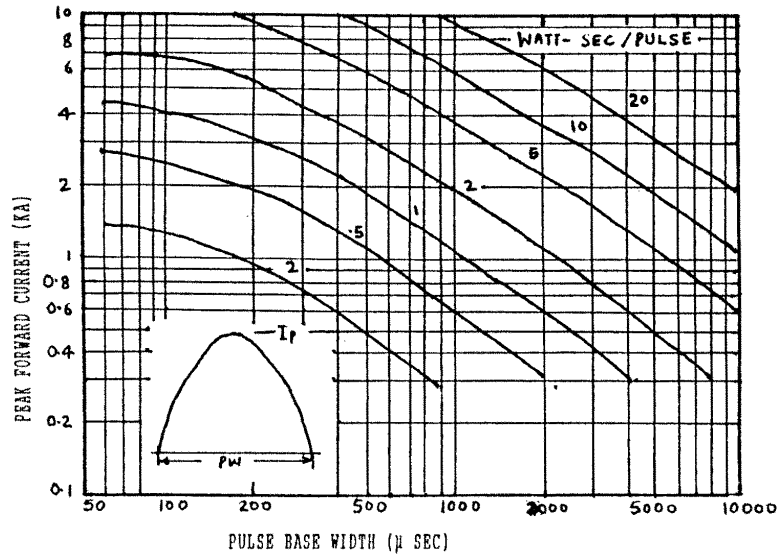
Symbol	Conditions	Values
$I_{T(AV)}$	50 Hz Half wave resistive load $T_c = 80^\circ C$	1080 A
I_{RMS}	RMS Value	1700 A
$R_{th(j-h)}$	Thermal resistance junction to heat sink surface	0.028 $^\circ C/W$
I^2T	Fusing at max T_{vj} 10 mS half sine	1620000 A^2s
I_{TSM}	Surge current at max. T_{vj} & 50% V_{RRM} 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}	Virtual 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, $dv/dt = 400 V/\mu S$	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
Package Outline		D

* Higher dv/dt selection available.

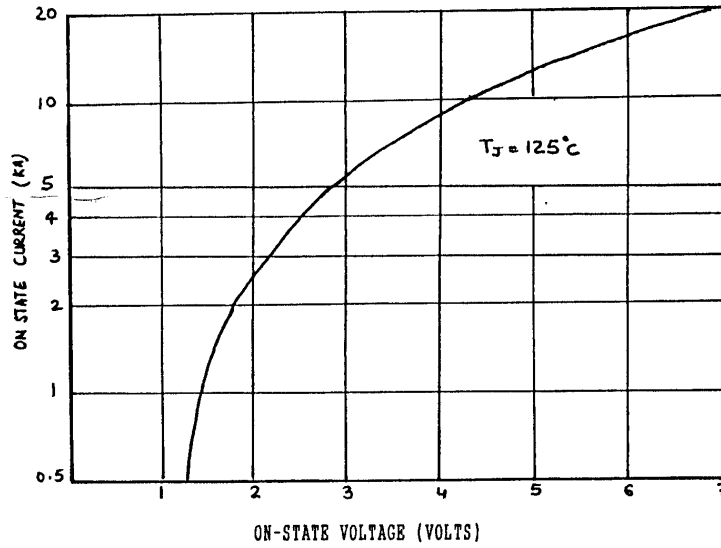
SINUSOIDAL CURRENT WAVEFORMS



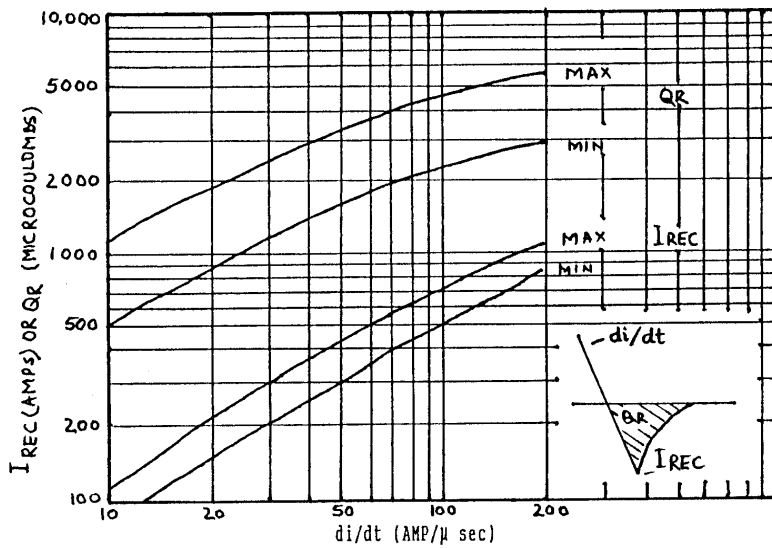
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT
Vs. PULSE WIDTH ($T_c = 65^\circ C$)



ENERGY PER PULSE FOR SINUSOIDAL PULSES

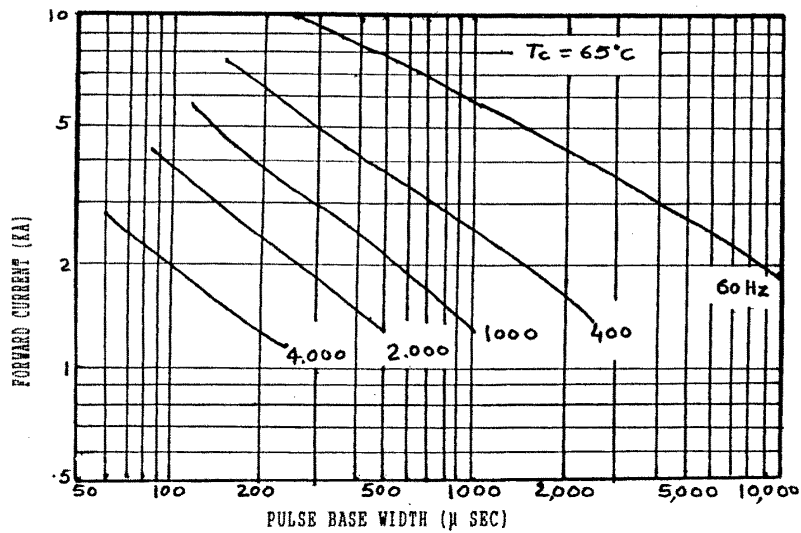


FORWARD CONDUCTION CHARACTERISTIC ON STATE

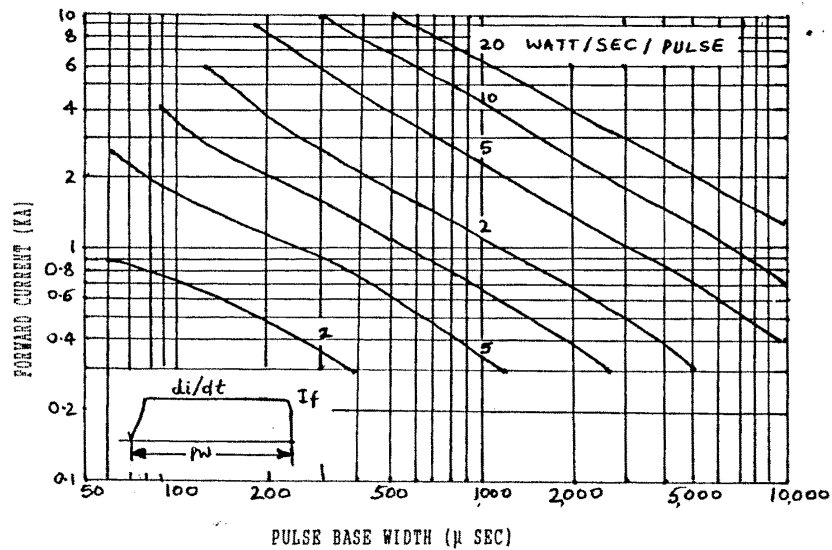


RECOVERED CHARGE (125°C)

TRAPEZOIDAL CURRENT WAVEFORMS

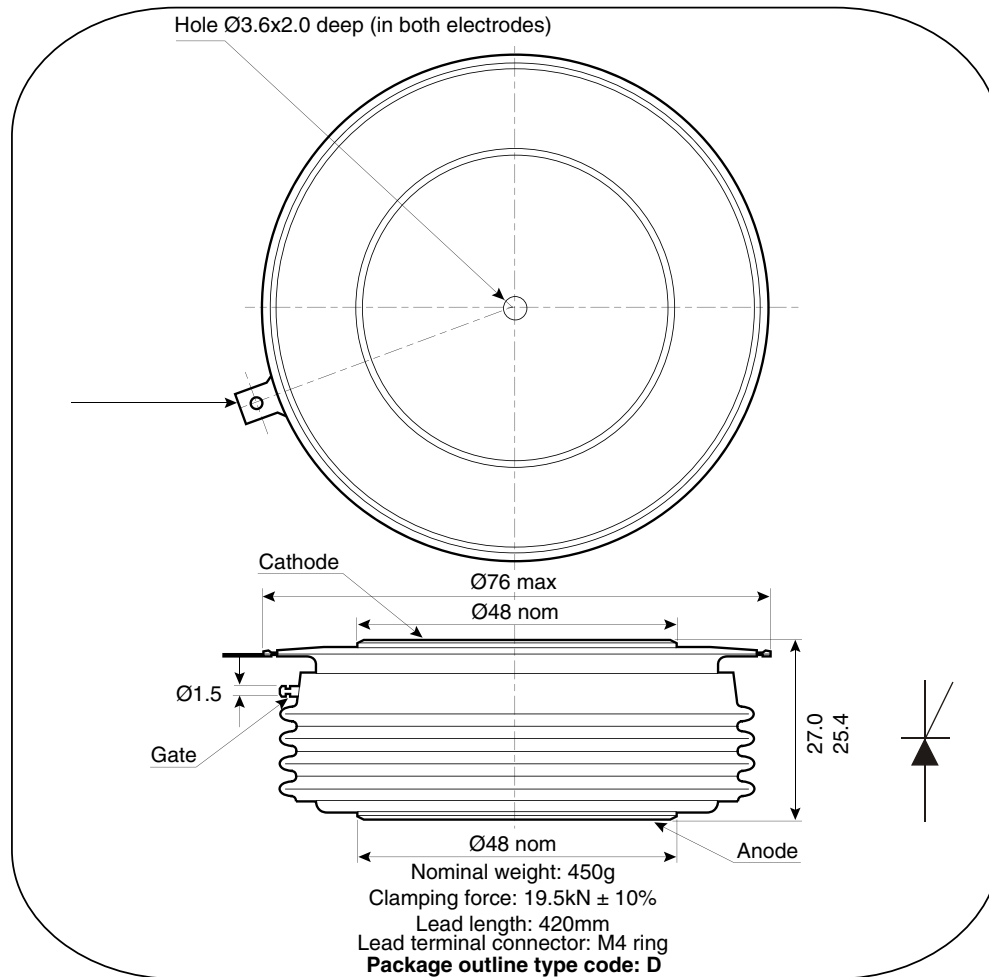


MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT FOR TRAPEZOIDAL CURRENT WAVEFORMS FOR ($T_c = 65^\circ\text{C}$) ($di/dt = 100\text{A}/\mu\text{s}$)



ENERGY PER PULSE FOR TRAPEZOIDAL CURRENT WAVEFORMS

PACKAGE OUTLINE



All dimensions are in mm.

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