

# Thyristors

## DCR1278



### Technical Data

Typical applications : D.C. Motor control, Controlled rectifiers, High power drives.

Type No.	$V_{RRM}$ (Volts)	$V_{RSM}$ (Volts)
DCR1278/20	2000	2100
DCR1278/26	2600	2700
DCR1278/30	3000	3100
DCR1278/34	3400	3500
DCR1278/38	3800	3900
DCR1278/40	4000	4100
DCR1278/42	4200	4300

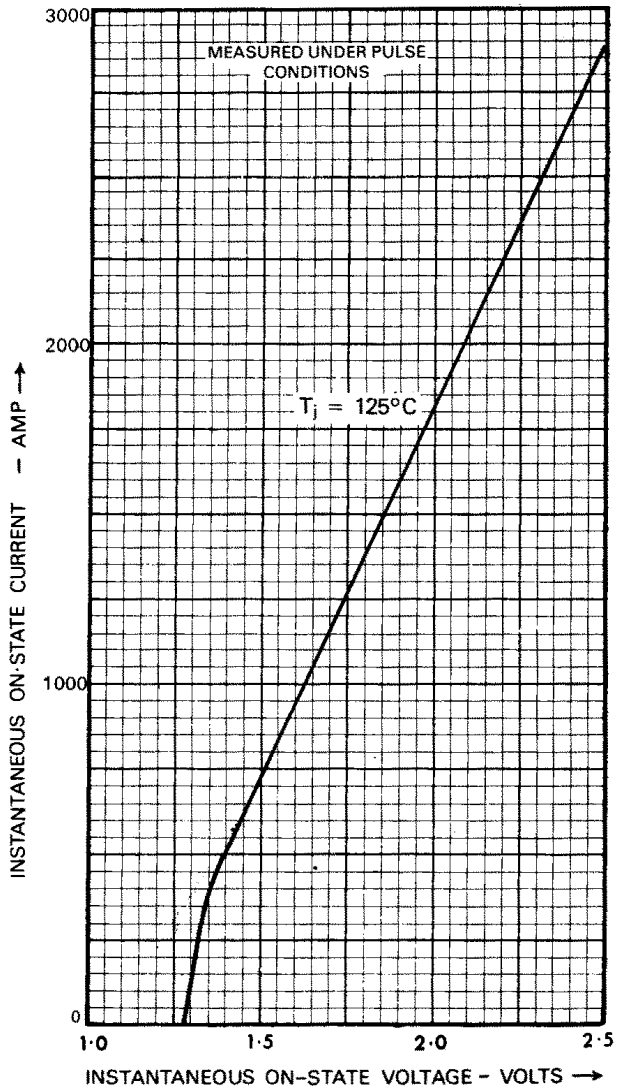
### Features

- Double side cooling.
- Voltage grade upto 4200V.
- Weight 500gm (Approx.)

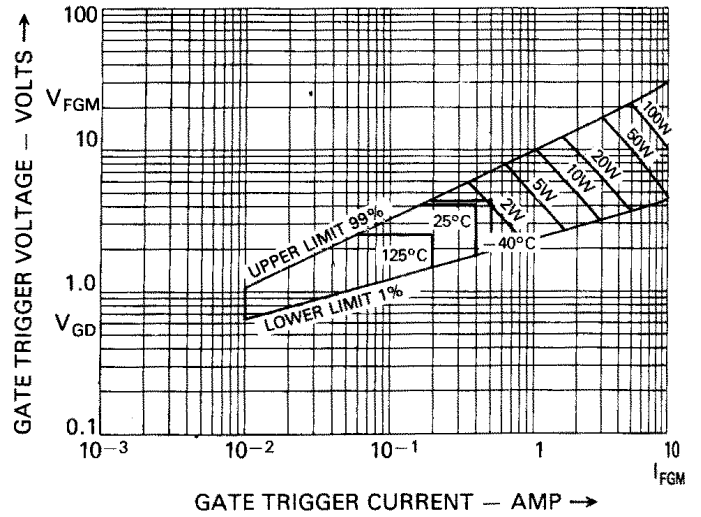
Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load $T_{HS} = 55^\circ C$	1100 A
$I_{TSM}$	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	16.4 K.A.
$I^2T$	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $T_{vj} = 125^\circ C$ ; 3 ms half sine	1350000 A <sup>2</sup> s 864000 A <sup>2</sup> s
$I_{GT}$ $V_{GT}$ dv/dt [di/dt] <sub>cr</sub>	$T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$ $T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$ $T_{vj} = 125^\circ C$ ; Voltage = 67% $V_{DRM}$ Repetitive 50 Hz	400 mA 4.0V *300V/ $\mu$ S 100 A/ $\mu$ S
$V_T$ $V_o$ $R_o$ $I_{RRM}/I_{DRM}$	$T_{vj} = 25^\circ C$ ; $I_T = 2900 A$ $T_{vj} = 125^\circ C$ $T_{vj} = 125^\circ C$ $T_{vj} = 130^\circ C$	2.125 V max 1.15 V 0.481 m 100 mA
$I_L$	Typ value	300 mA
$R_{th(i-h)}$   Tvj Tstg	dc Half wave 3-phase	0.024 °C/W 0.026 °C/W 0.028 °C/W 125 °C + 125 °C
Mounting Force		20-24 KN
Case outline		D

\* Higher dv/dt selection available.





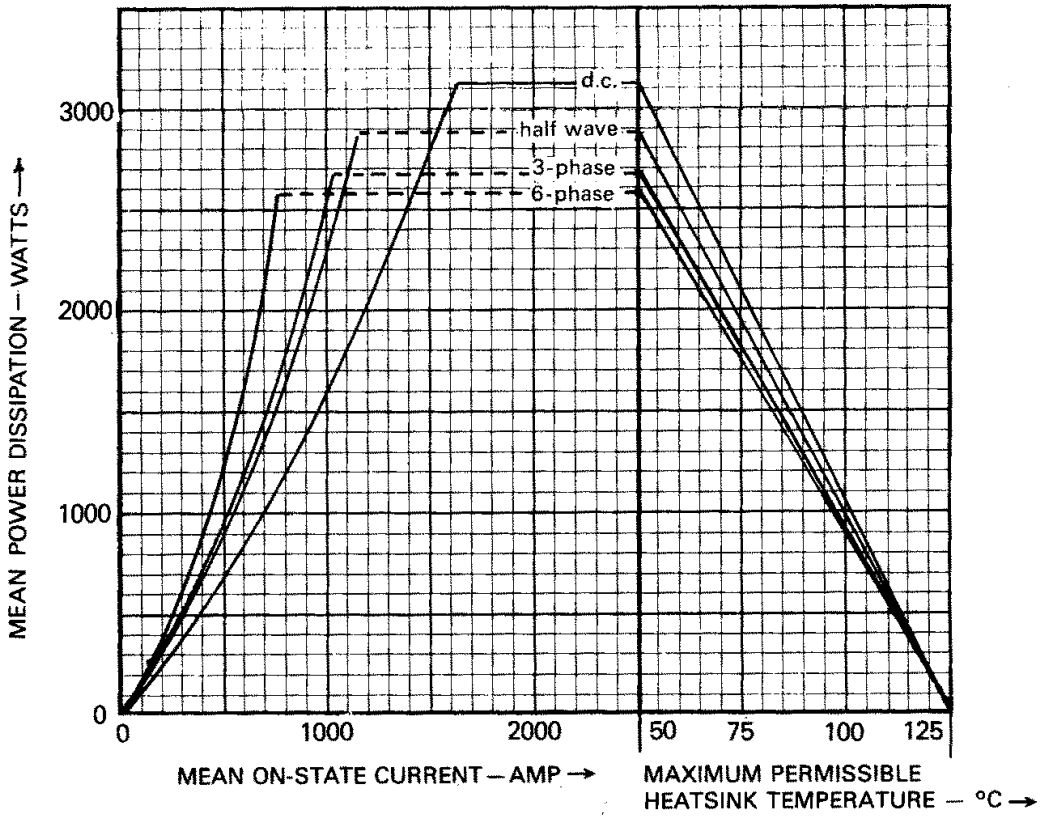
**MAXIMUM (LIMIT) ON-STATE CHARACTERISTICS**



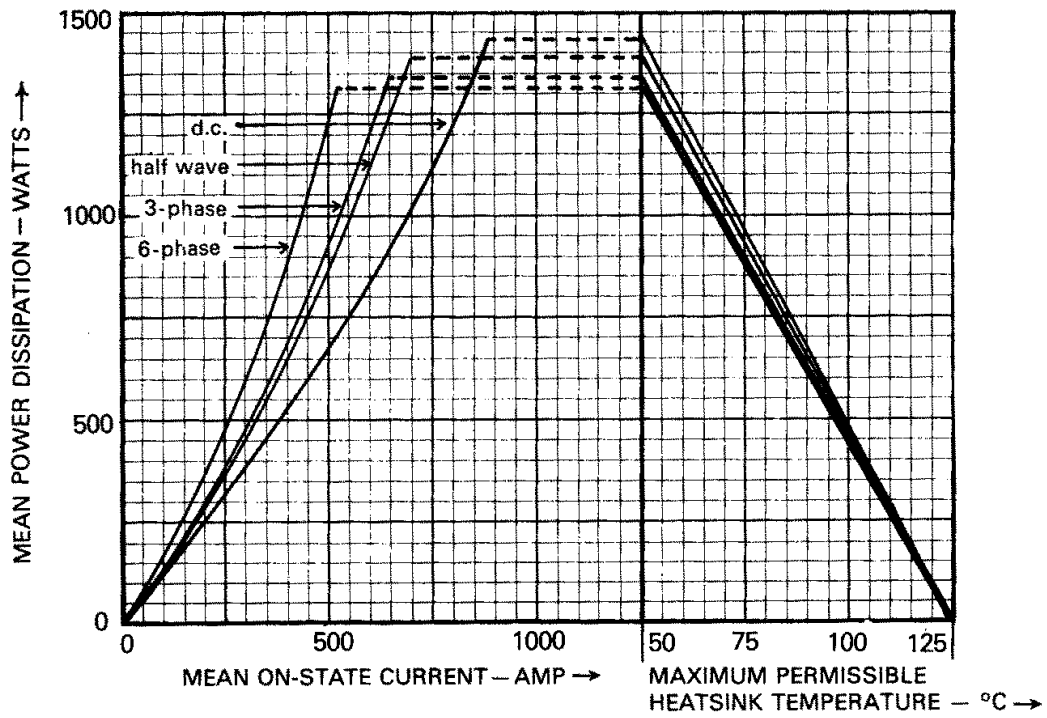
Pulse Width $\mu$ s	Pulse Frequency Hz		
	50	100	400
100	150	150	150
200	150	150	125
500	150	150	100
1mS	150	100	25
10mS	20	10	2.5

TABLE GIVES GATE PULSE POWER IN  $P_{GM}$  IN WATTS

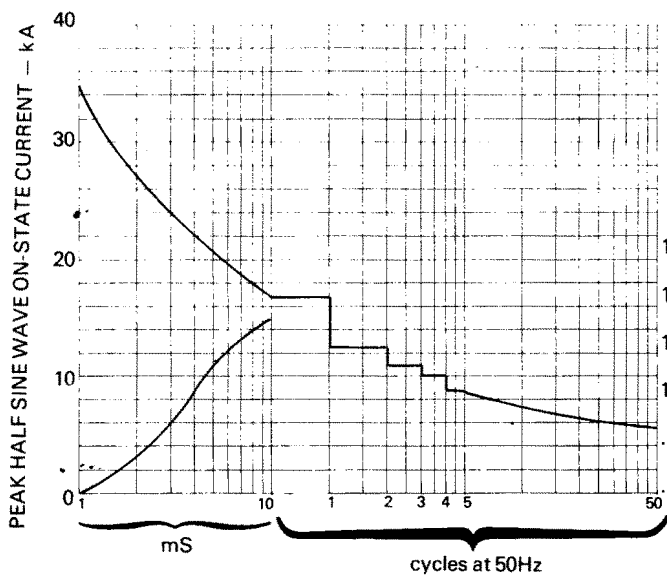
**GATE CHARACTERISTICS**



**DISSIPATION CURVES:  
DOUBLE SIDE COOLED**

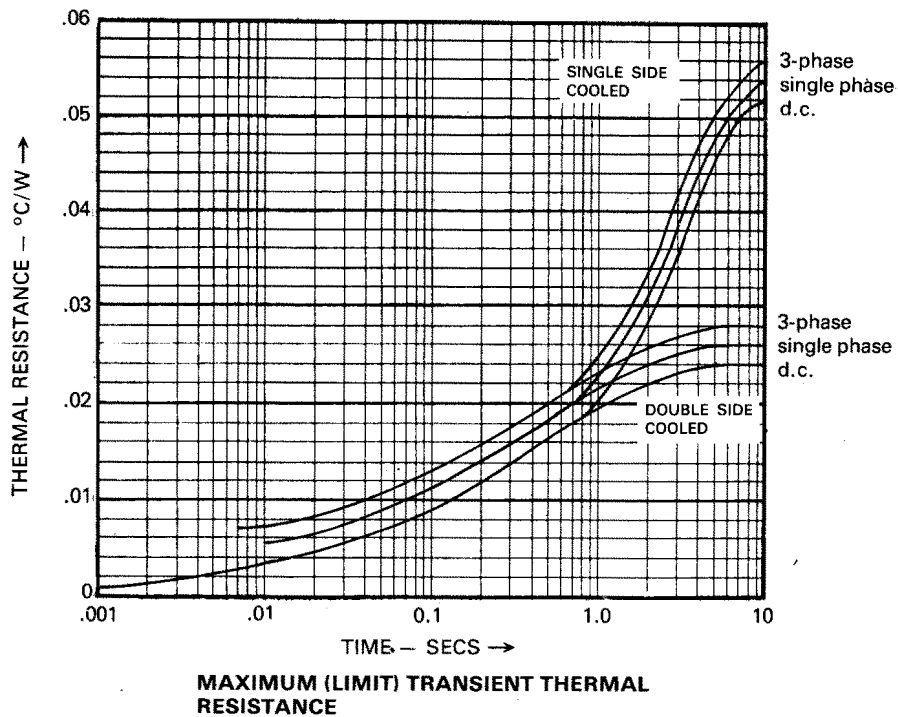
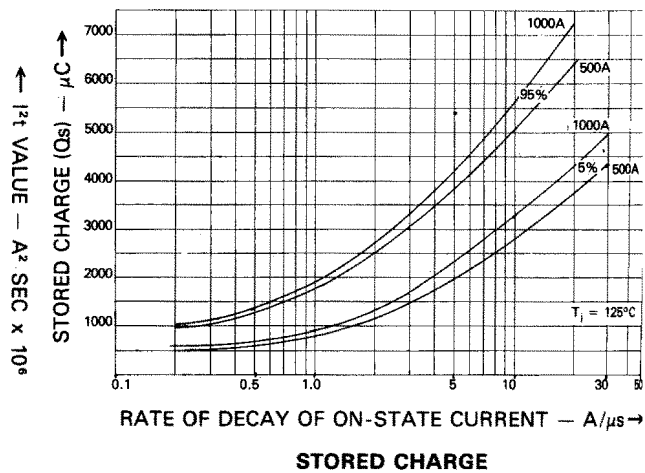


**DISSIPATION CURVES:  
SINGLE SIDE COOLED**



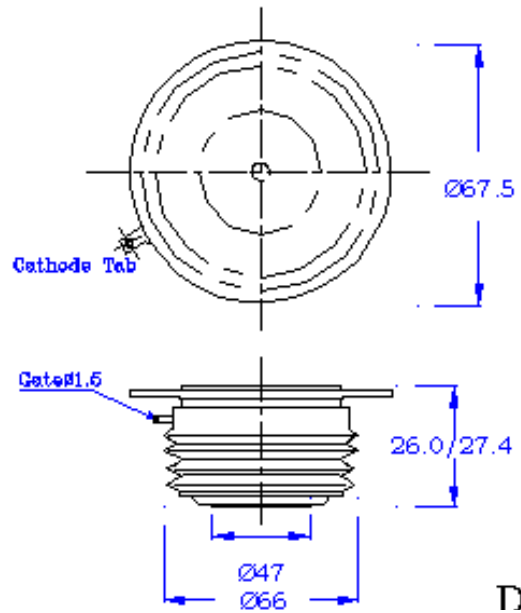
**SURGE (NON-REPETITIVE) ON-STATE CURRENT VERSUS TIME (with 50% V<sub>RSM</sub> T<sub>case</sub> 125°C)**

$$I^2t = \frac{I_p^2 \times t}{2}$$



## PACKAGE DETAILS

DO NOT SCALE



Nominal Weight : 500g  
Clamping force : 20-24KN

Case Outline : D