

# Thyristors

## DCR1478



### Technical Data

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

Type No.	$V_{RRM}$ (Volts)	$V_{RSM}$ (Volts)
DCR1478/30	3000	3100
DCR1478/32	3200	3300
DCR1478/34	3400	3500
DCR1478/36	3600	3700
DCR1478/40	4000	4100
DCR1478/44	4400	4500
DCR1478/48	4800	4900

### Features

- Double side cooling.
- Voltage grade upto 4800V
- Weight 1600gm (Approx.)

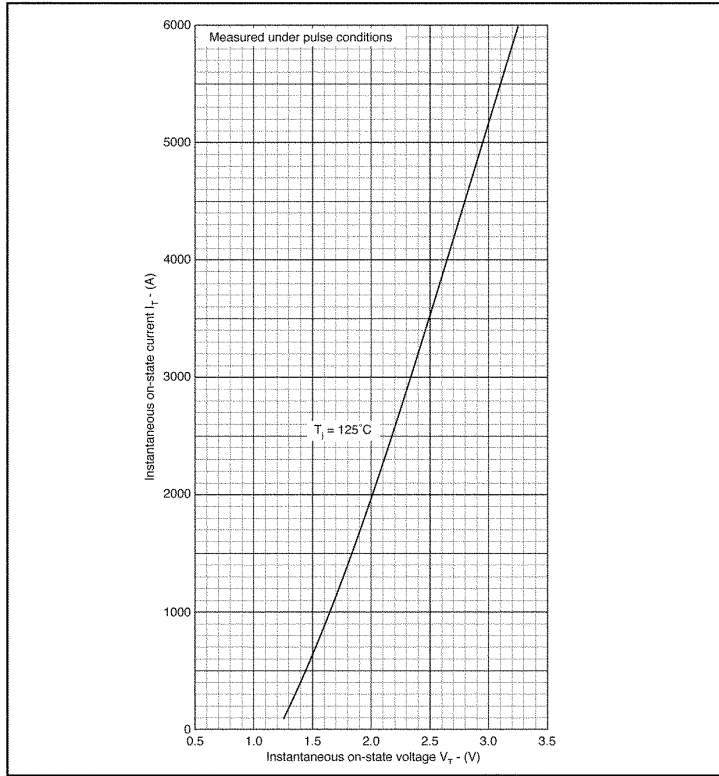
Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load; $T_C = 60^\circ\text{C}$	2073 A
$I_{TSM}$	$T_{vj} = 125^\circ\text{C}$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	22.0 KA
	$T_{vj} = 125^\circ\text{C}$ ; 10 ms half sine, $V_R = 0$	27.5 KA
$I^2t$	$T_{vj} = 125^\circ\text{C}$ , 10 ms half sine, $V_R = 50\% V_{RRM}$	2420000 A <sup>2</sup> s
	$T_{vj} = 125^\circ\text{C}$ ; 10 ms half sine, $V_R = 0$	3780000 A <sup>2</sup> s
$I_{GT}$ $V_{GT}$ $dv/dt$ $[di/dt]_{CR}$	$T_{vj} = 25^\circ\text{C}$ ; $V_{DRM} = 5V$	400 mA
	$T_{vj} = 25^\circ\text{C}$ ; $V_{DRM} = 5V$	4.0 V
	$T_{vj} = 125^\circ\text{C}$ ; Voltage = 67 % $V_{DRM}$	*500 V/ $\mu$ s
	Repetitive 50 Hz	100 A/ $\mu$ s
$V_T$ $V_O$ $R_O$ $I_{RRM}/I_{DRM}$	$T_{vj} = 25^\circ\text{C}$ ; $I_T = 2900\text{ A}$	2.10 V max
	$T_{vj} = 125^\circ\text{C}$	1.4 V
	$T_{vj} = 125^\circ\text{C}$	0.31 m
	$T_{vj} = 130^\circ\text{C}$	250 mA
$I_H$ $I_L$		500 mA
		1000 mA
$R_{th(j-c)}$ $R_{th(c-h)}$ $T_{vj}$ $T_{stg}$	dc	0.0095 $^\circ\text{C/W}$
		0.002 $^\circ\text{C/W}$
		+125 $^\circ\text{C}$
		-40...+125 $^\circ\text{C}$
Mounting force		38-47 KN
Case outline		Y

\* Higher dv/dt selection available.

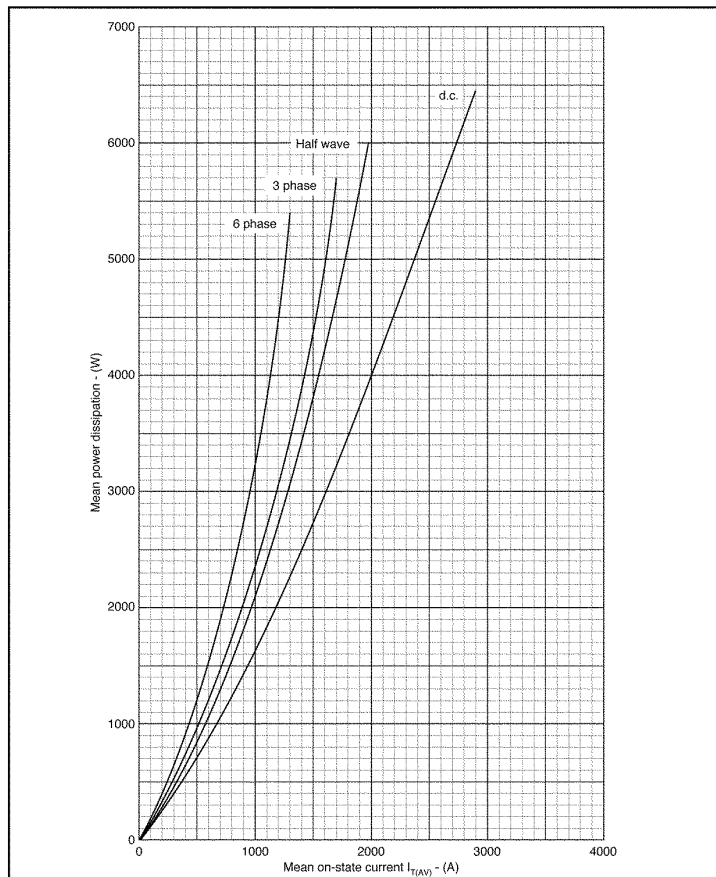


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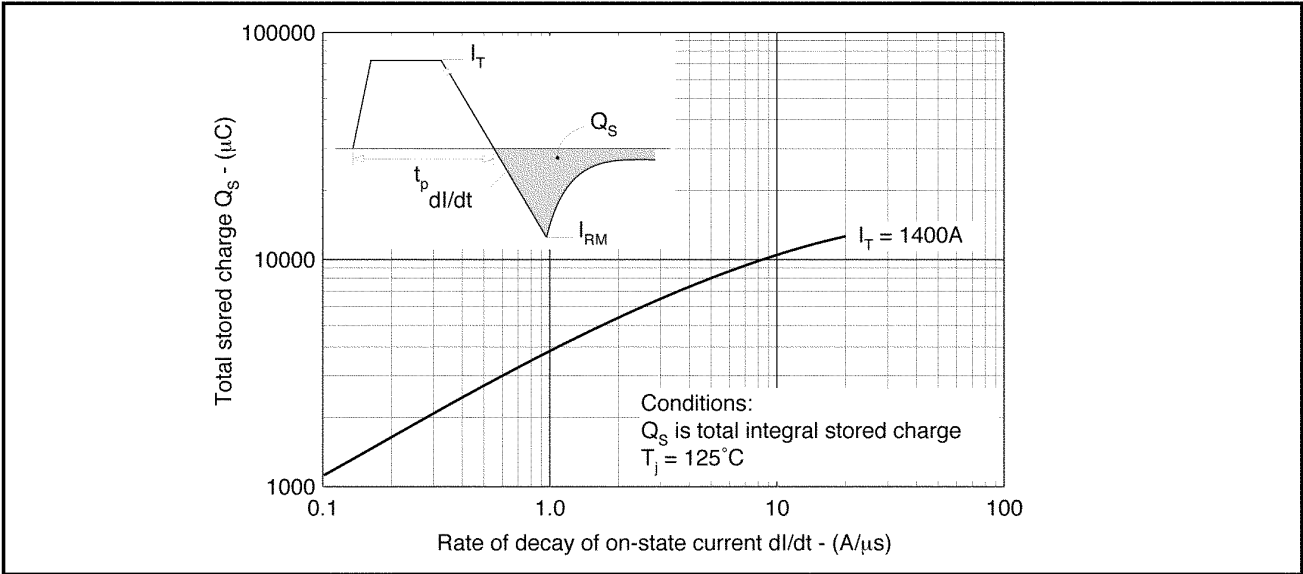
CURVES



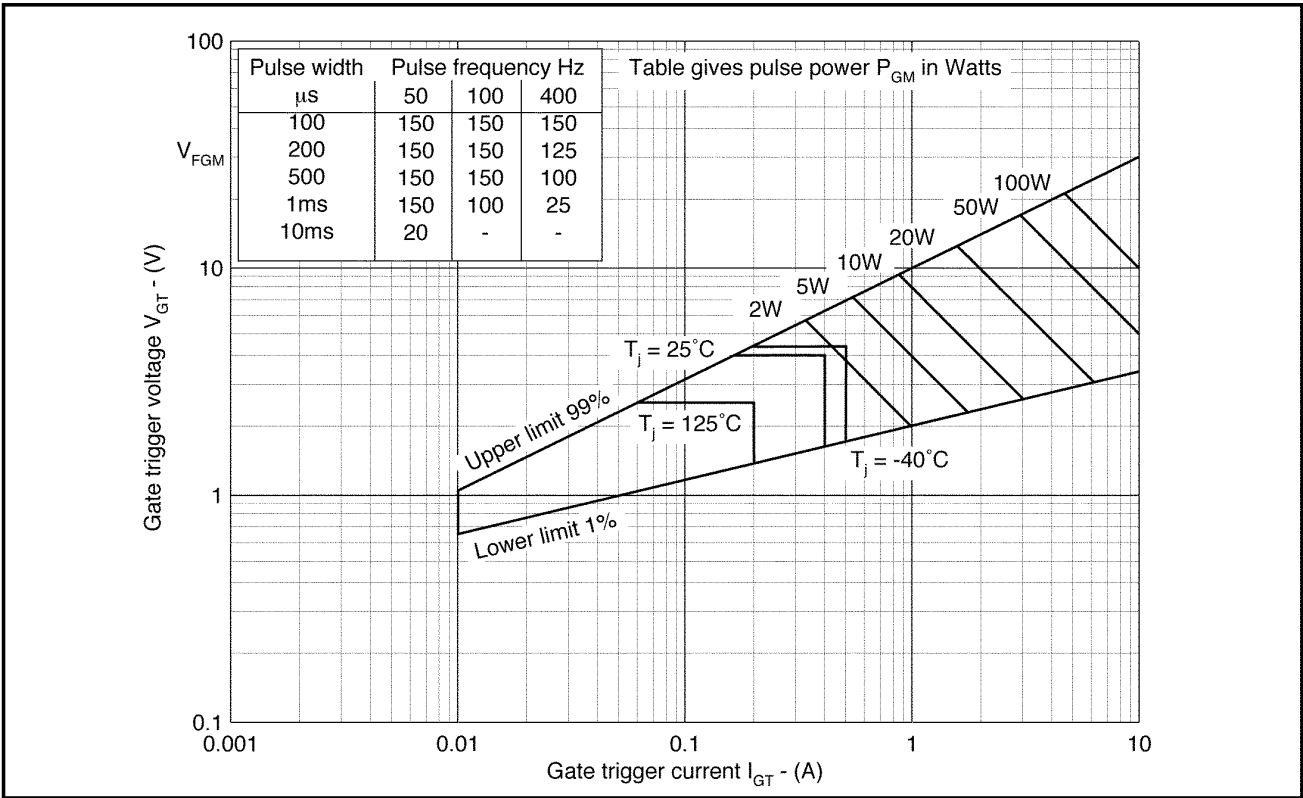
Maximum (limit) on-state characteristics



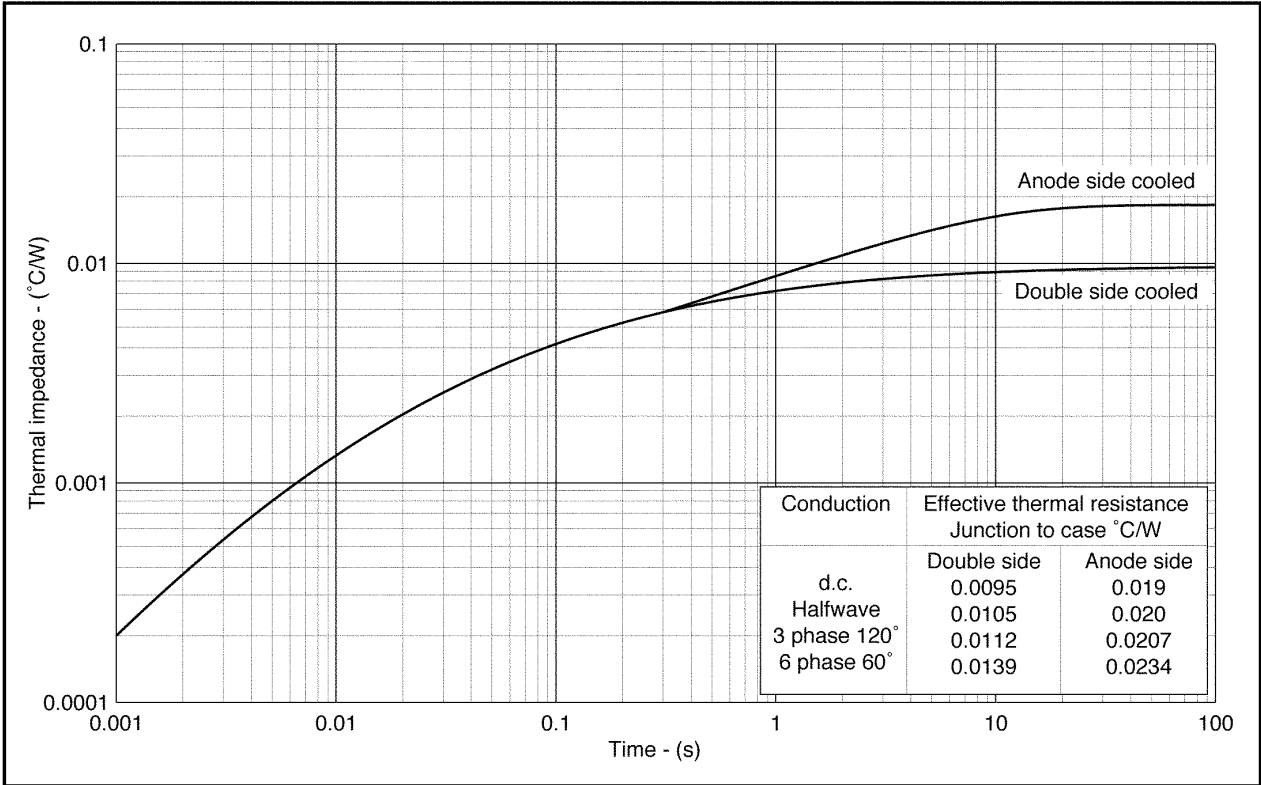
Dissipation curves



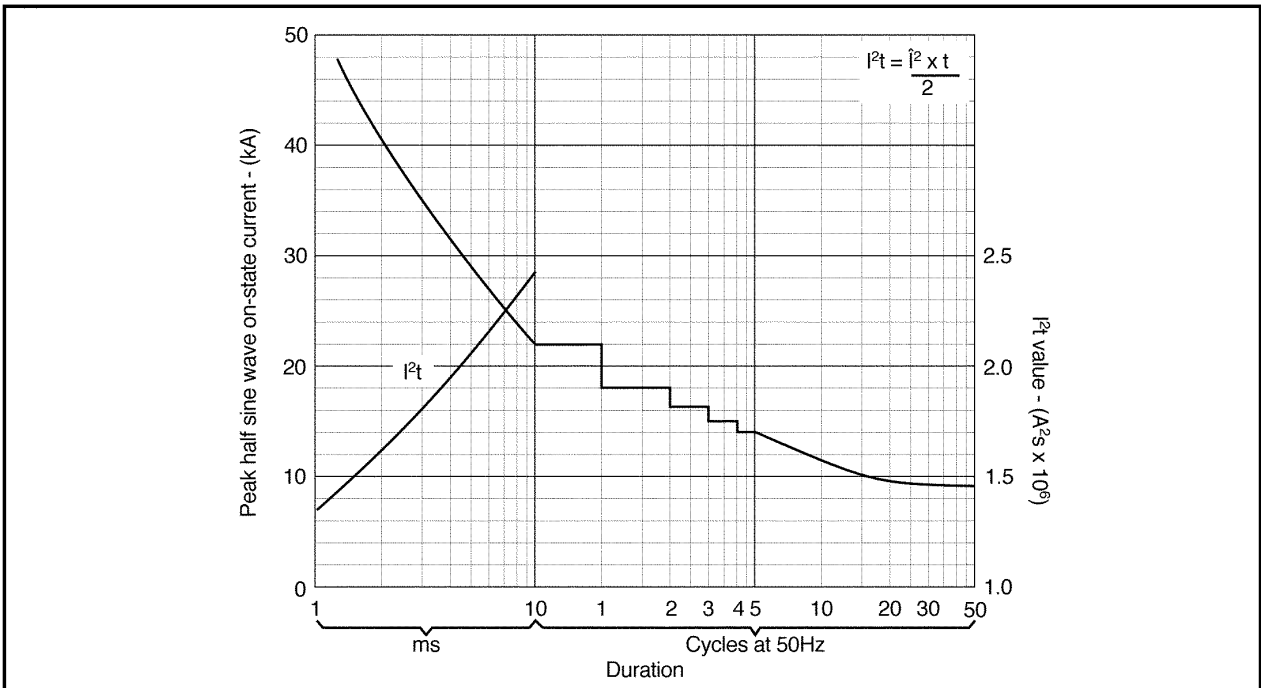
Stored charge



Gate characteristics



Maximum (limit) transient thermal impedance - junction to case



Surge (non-repetitive) on-state current vs time (with 50%  $V_{RRM}$  at  $T_{case}$  125°C)

# PACKAGE DETAILS

DO NOT SCALE.

