

# Thyristors

## DCR1277



### Technical Data

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

Type No.	$V_{RRM}$ (Volts)	$V_{RSM}$ (Volts)
DCR1277/30	3000	3100
DCR1277/32	3200	3300
DCR1277/34	3400	3500
DCR1277/36	3600	3700
DCR1277/38	3800	3900
DCR1277/39	3900	4000
DCR1277/40	4000	4100

### Features

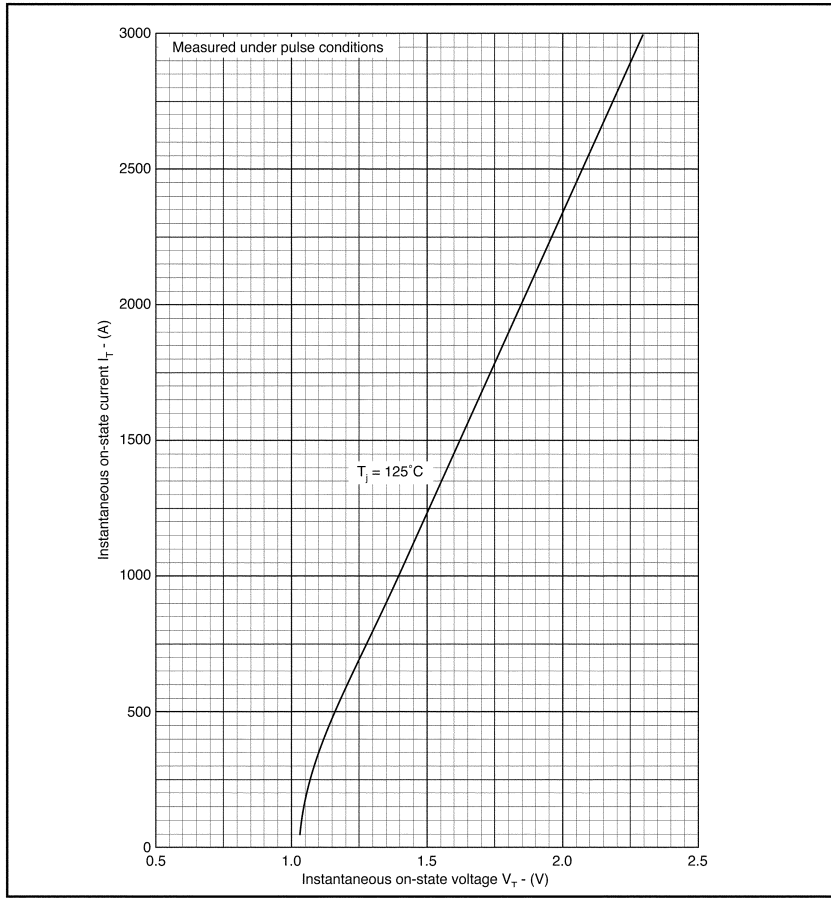
- Double side cooling.
- Voltage grade upto 4000V
- Weight 450gm (Approx.)

Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load; $T_C = 60^\circ C$	1259 A
$I_{TSM}$	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	19.0 KA
	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	23.75 KA
$I^2t$	$T_{vj} = 125^\circ C$ , 10 ms half sine, $V_R = 50\% V_{RRM}$	1800000 A <sup>2</sup> s
	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	2820000 A <sup>2</sup> s
$I_{GT}$	$T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$	400 mA
$V_{GT}$	$T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$	4.0 V
$dv/dt$	$T_{vj} = 125^\circ C$ ; Voltage = 67 % $V_{DRM}$	*300 V/ $\mu$ s
$[di/dt]_{CR}$	Repetitive 50 Hz	100 A/ $\mu$ s
$V_T$	$T_{vj} = 25^\circ C$ ; $I_T = 2900 A$	2.025 V max
$V_O$	$T_{vj} = 125^\circ C$	0.95 V
$R_O$	$T_{vj} = 125^\circ C$	0.45 m
$I_{RRM}/I_{DRM}$	$T_{vj} = 130^\circ C$	150 mA
$I_H$ $I_L$		500 mA
		1000 mA
$R_{th(j-c)}$	dc	0.020 $^\circ C/W$
$R_{th(c-h)}$		0.004 $^\circ C/W$
$T_{vj}$		+125 $^\circ C$
$T_{stg}$		-40...+125 $^\circ C$
Mounting Force		20-22 KN
Case outline		D

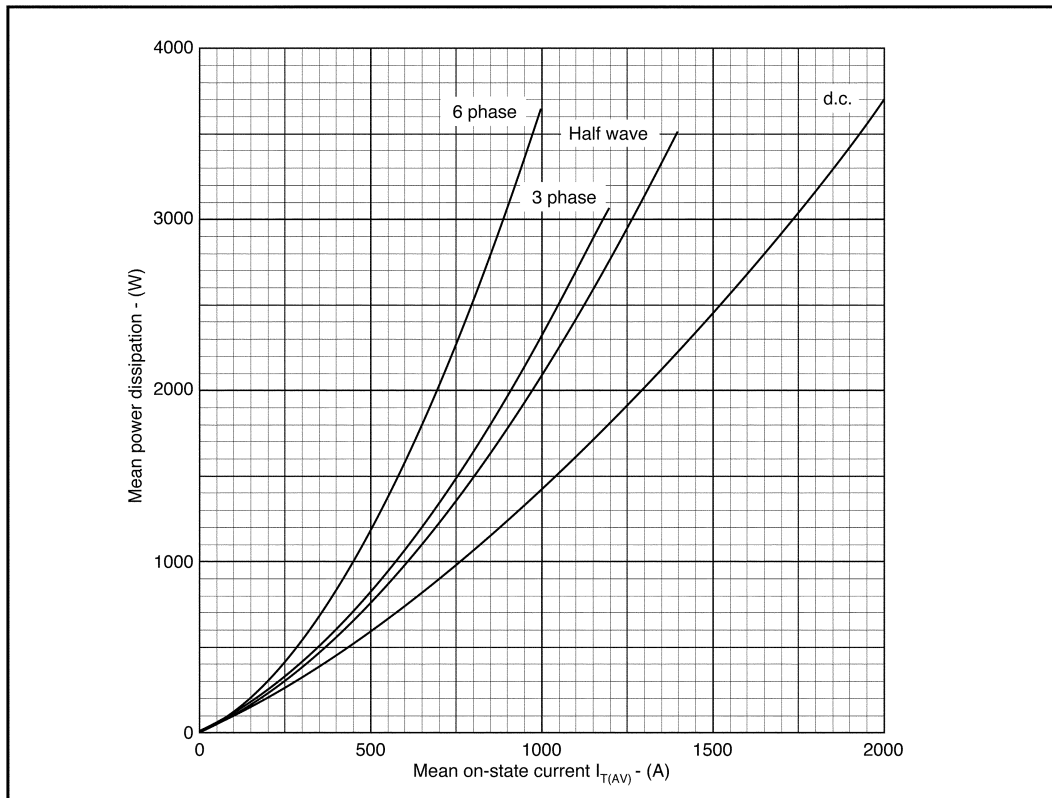
\* Higher dv/dt selection available.



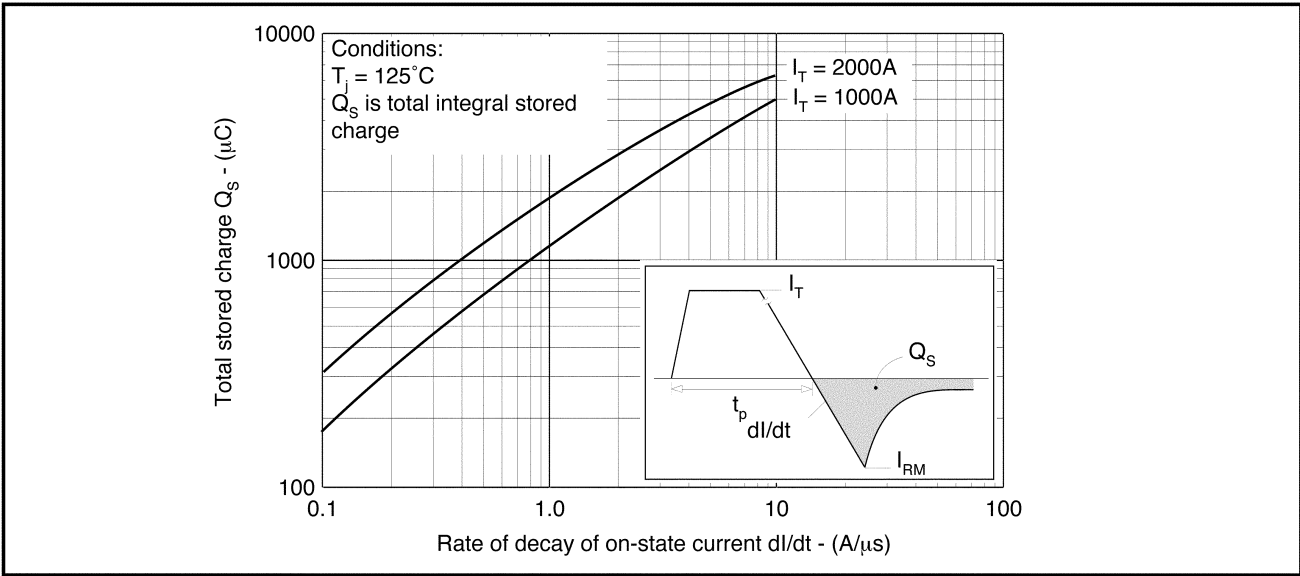
**CURVES**



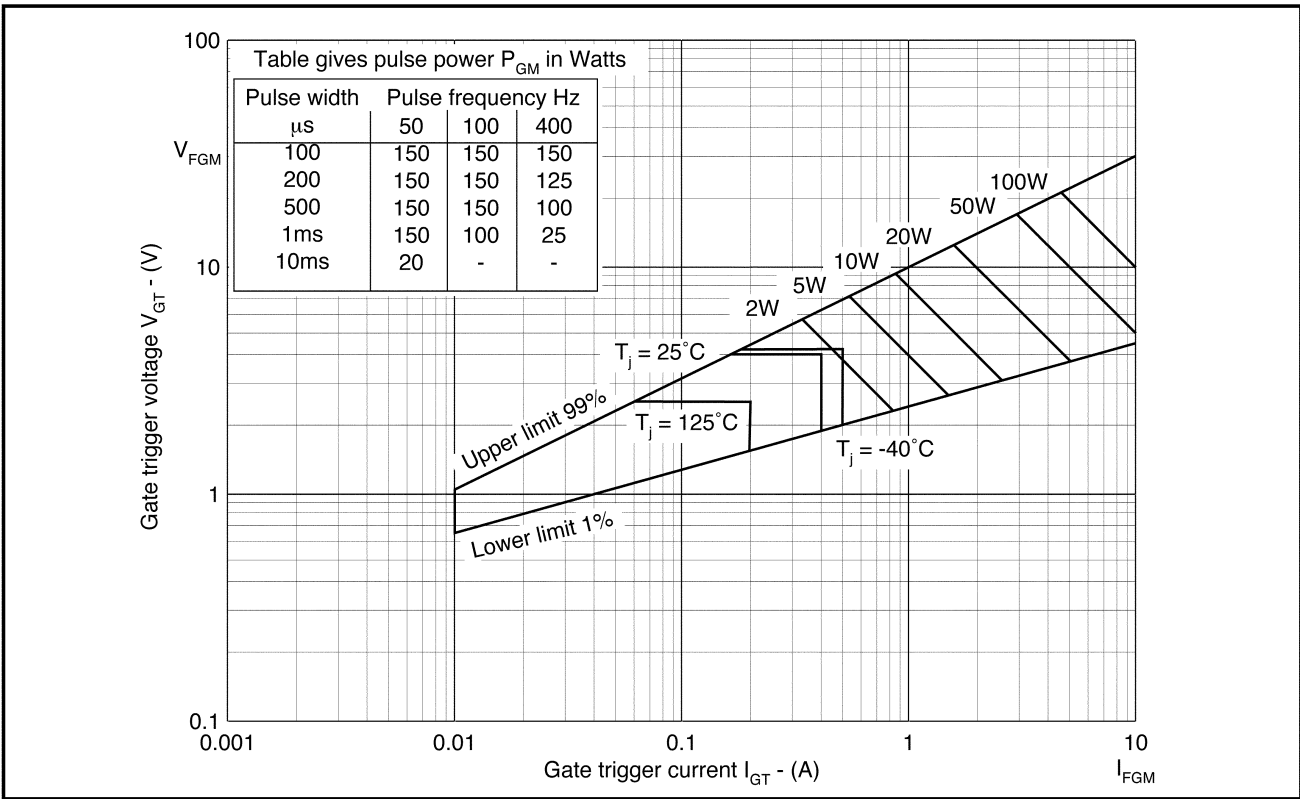
**Maximum (limit) on-state characteristics**



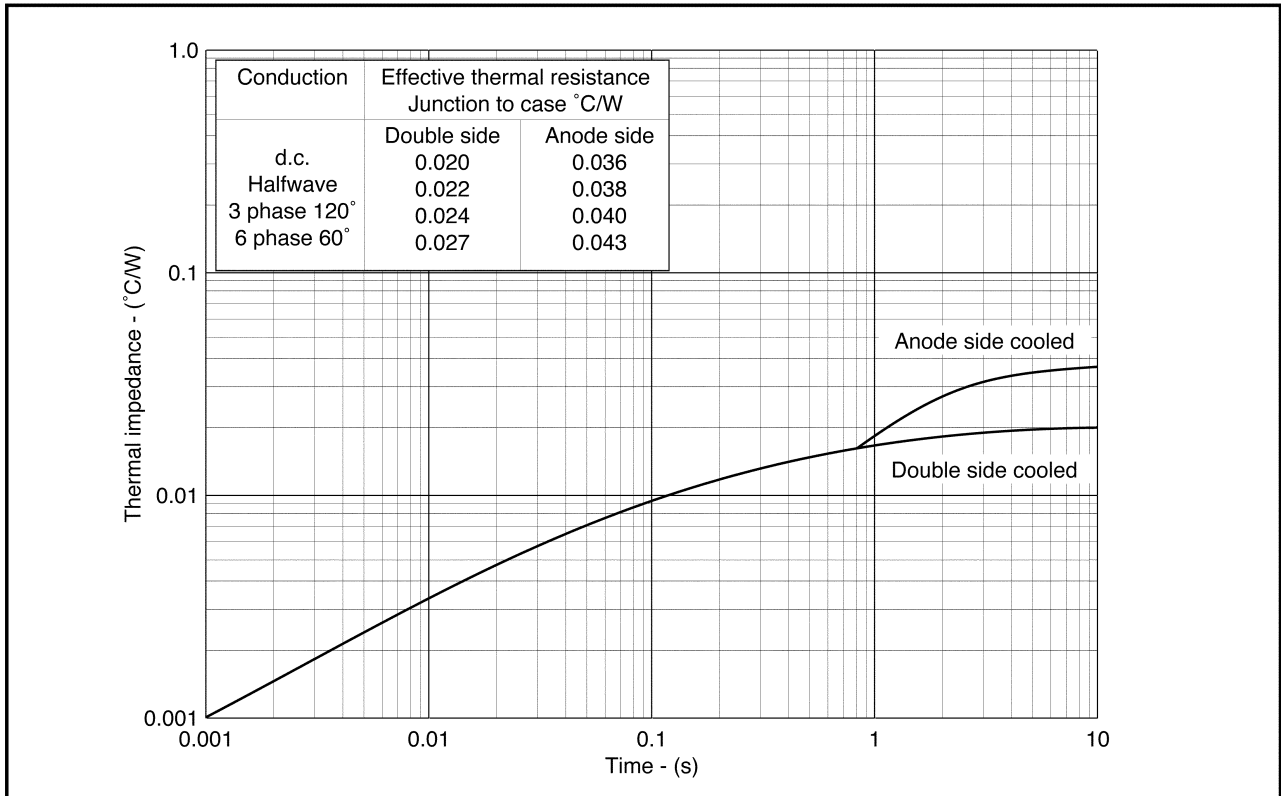
**Dissipation curves**



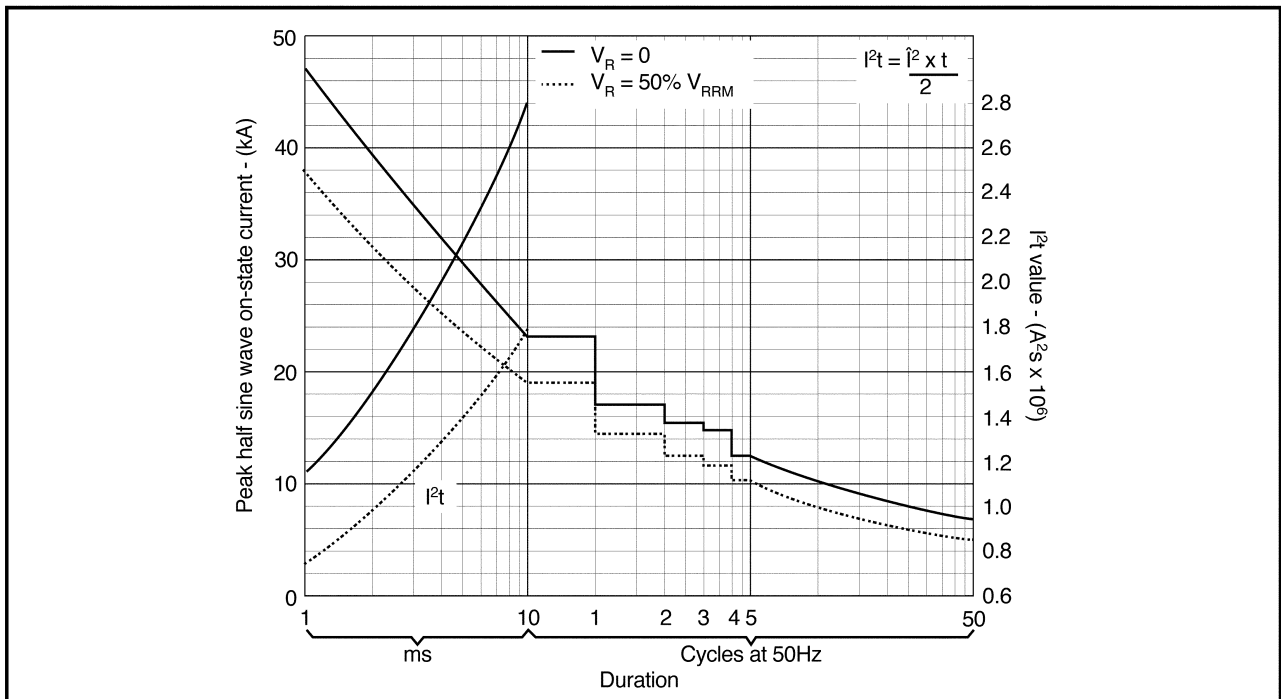
Stored charge



Gate characteristics



Maximum (limit) transient thermal impedance - junction to case



Surge (non-repetitive) on-state current vs time at  $T_{case} = 125^\circ C$

## PACKAGE DETAILS

DO NOT SCALE.

