

# Thyristors

## DCR1003



### Technical Data

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

Type No.	$V_{RRM}$ (Volts)	$V_{RSM}$ (Volts)
DCR1003/06	600	700
DCR1003/08	800	900
DCR1003/10	1000	1100
DCR1003/12	1200	1300
DCR1003/14	1400	1500
DCR1003/16	1600	1700
DCR1003/18	1800	1900

### Features

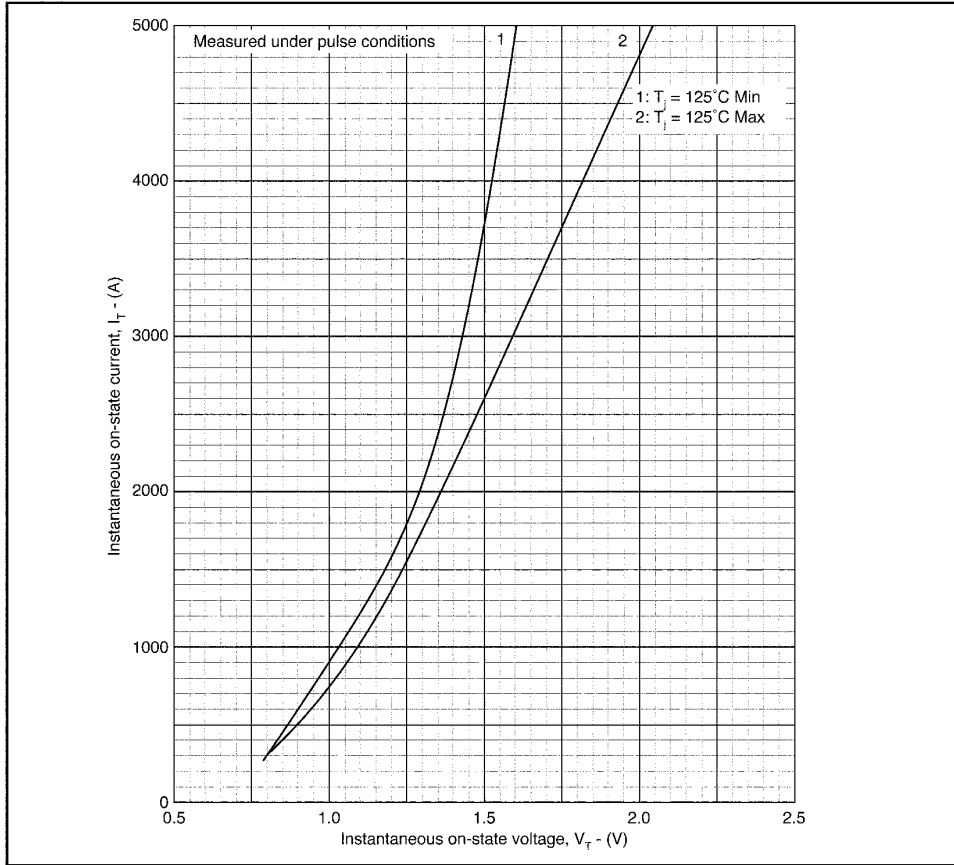
- Double side cooling.
- Voltage grade upto 1800V.
- Weight 500gm (Approx.)

Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load $T_C = 60^\circ C$	1511 A
$I_{TSM}$	$T_{VJ} = 125^\circ C$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	21 K.A.
	$T_{VJ} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	26.25 K.A.
$I^2T$	$T_{VJ} = 125^\circ C$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	2210000 A <sup>2</sup> s
	$T_{VJ} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	3440000 A <sup>2</sup> s
$I_{GT}$	$T_{VJ} = 25^\circ C$ ; $V_{DRM} = 5V$	200 mA
$V_{GT}$	$T_{VJ} = 25^\circ C$ ; $V_{DRM} = 5V$	3.5 V
dv/dt	$T_{VJ} = 125^\circ C$ ; Voltage = 67% $V_{DRM}$	*200 V/ $\mu$ S
$[di/dt]_{CR}$	Repetitive 50 Hz	500 A/ $\mu$ S
$V_T$	$T_{VJ} = 25^\circ C$ ; $I_T = 2900 A$	1.50 V max
$V_o$	$T_{VJ} = 125^\circ C$	0.86 V
$R_o$	$T_{VJ} = 125^\circ C$	0.25 m
$I_{RRM}/I_{DRM}$	$T_{VJ} = 130^\circ C$	100 mA
$I_H$	$T_{VJ} = 25^\circ C$ ; $R_{6-K} =$	230 mA
$I_L$	$T_{VJ} = 25^\circ C$ ; $V_D = 5V$	350 mA
$R_{th(i-c)}$	dc	0.022 $^\circ C/W$
$R_{th(i-h)}$		0.004 $^\circ C/W$
$T_{VJ}$		125 $^\circ C$
$T_{STG}$		-40 to + 125 $^\circ C$
Mounting Force		20-22 KN
Case outline		F

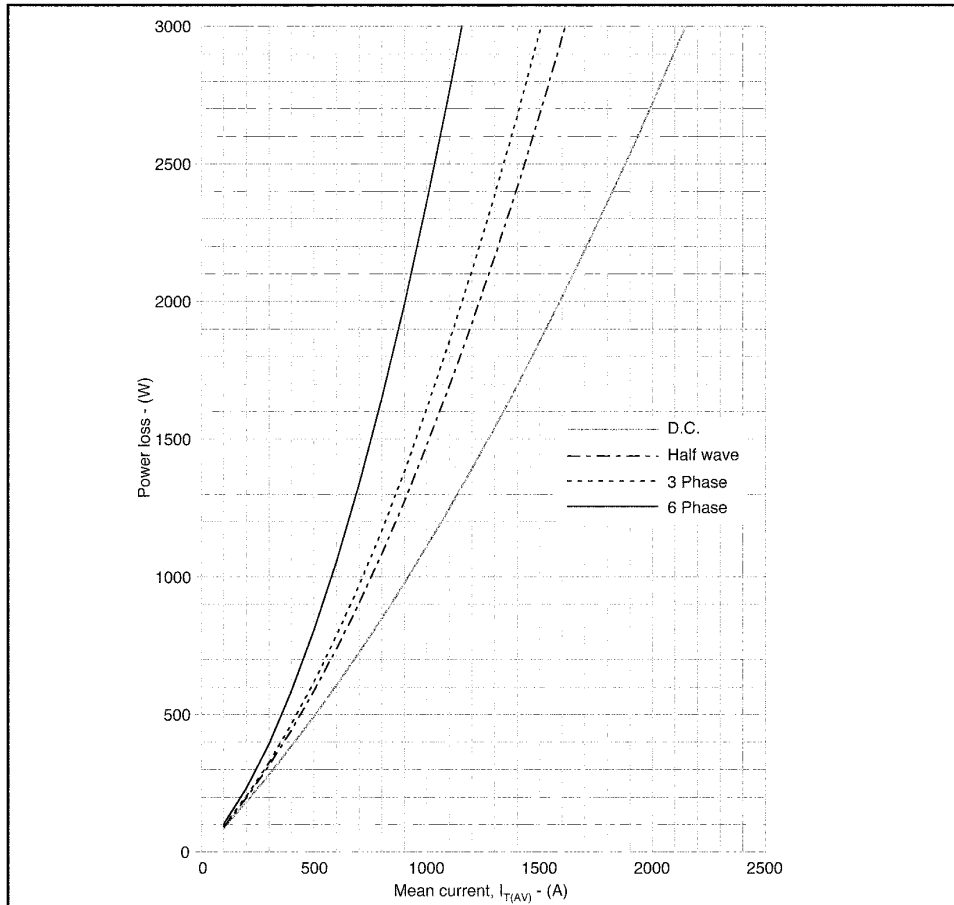
\* Higher dv/dt selection available.



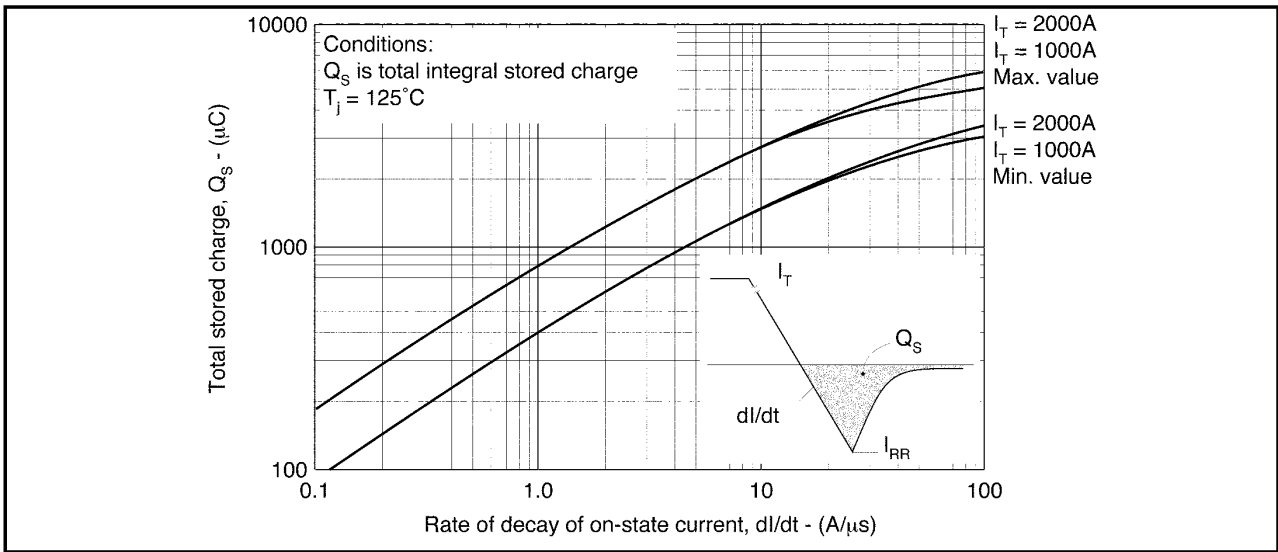
**CURVES**



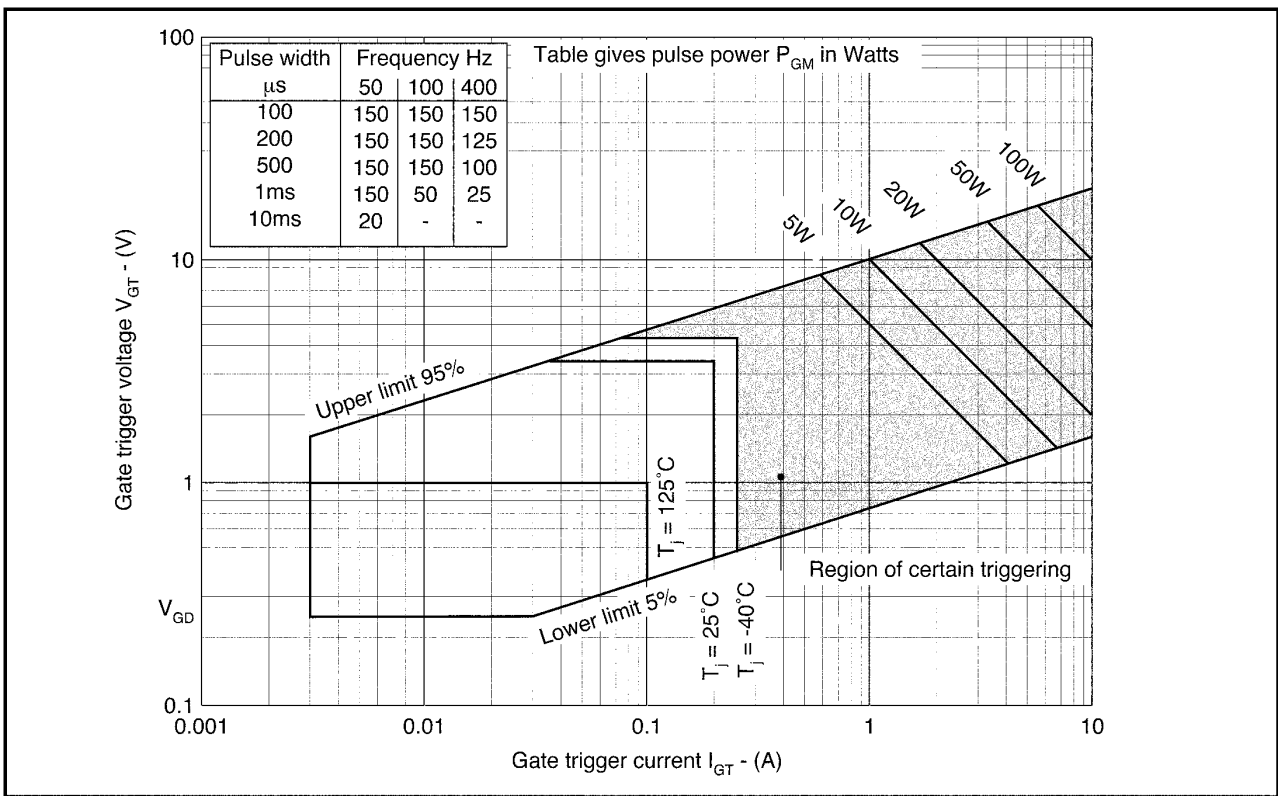
**Maximum (limit) on-state characteristics**



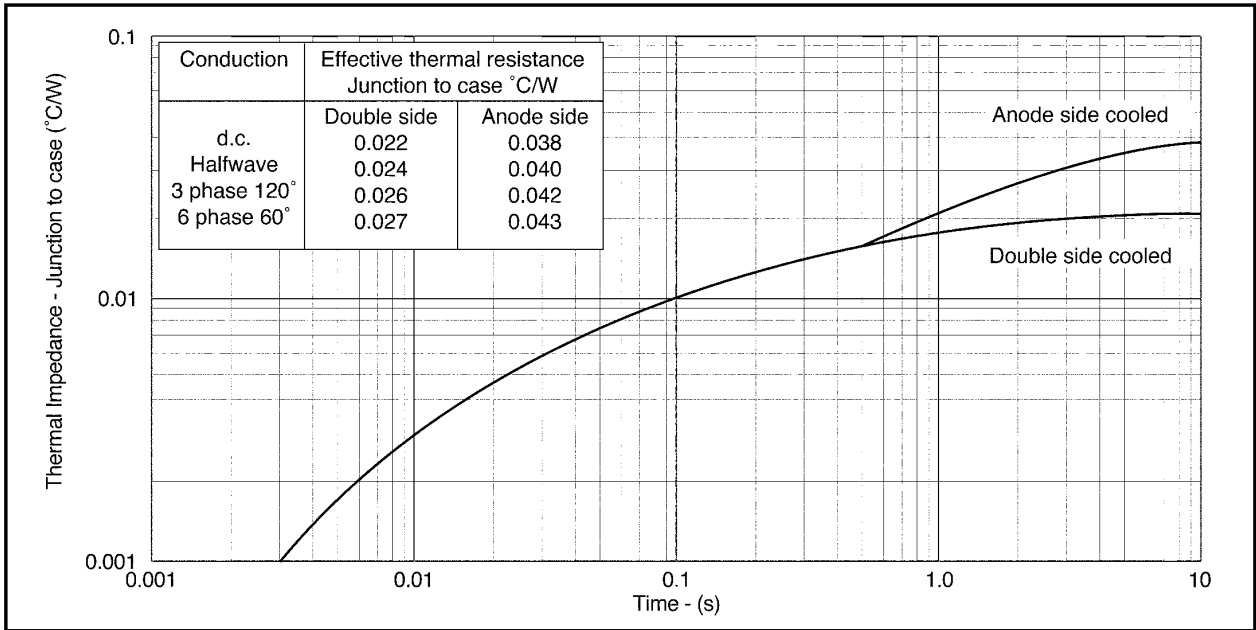
**Dissipation curves**



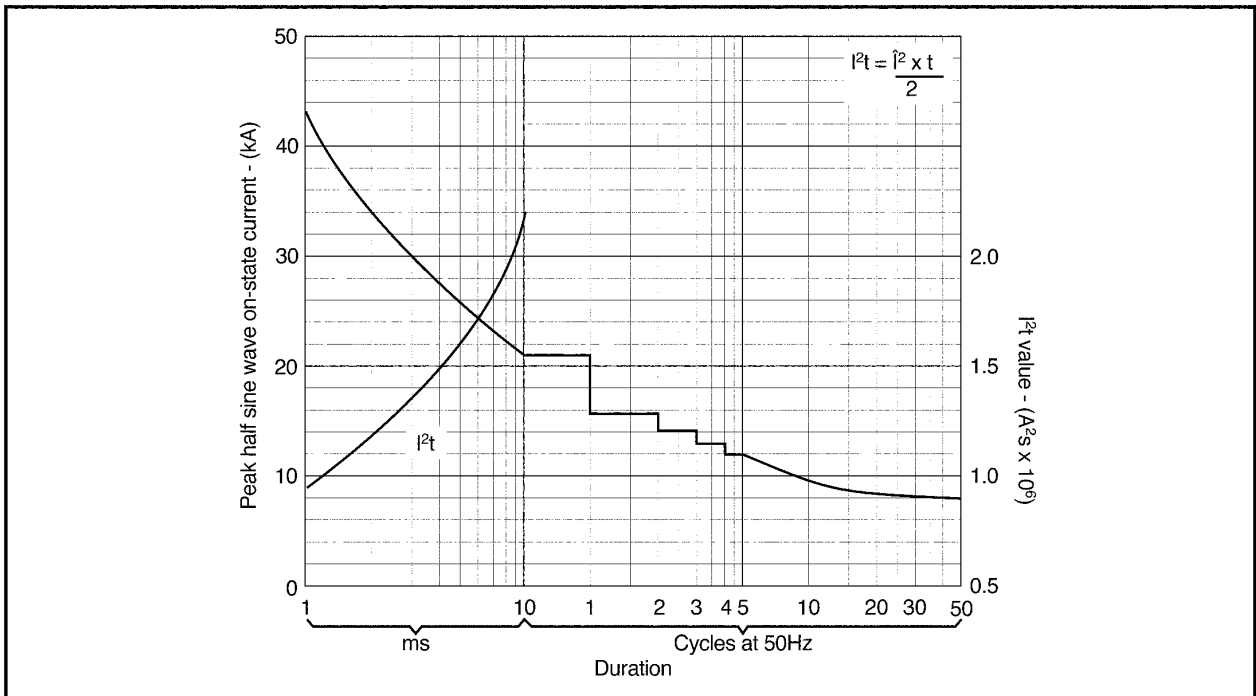
Stored charge



Gate characteristics



Transient thermal impedance - junction to case - (°C/W)



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

# PACKAGE DETAILS

DO NOT SCALE

