

# Thyristors

## DCR604

### Technical Data

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

Type No.	$V_{RRM}$ (Volts)	$V_{RSM}$ (Volts)
DCR604/04	400	500
DCR604/08	800	900
DCR604/12	1200	1300
DCR604/14	1400	1500
DCR604/16	1600	1800
DCR604/18	1800	1900
DCR604/20	2000	2100

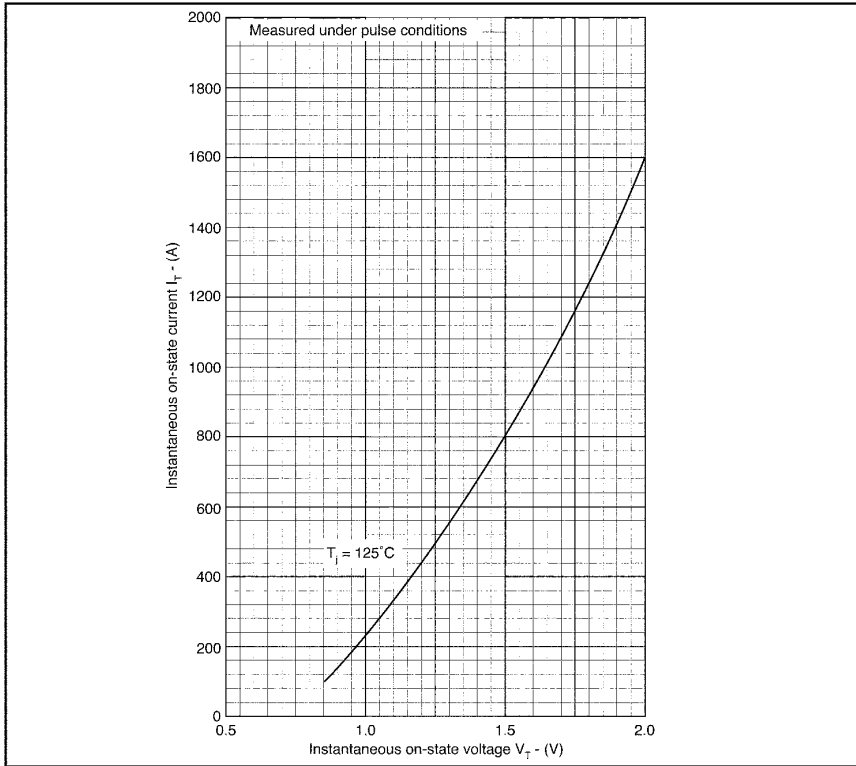
### Features

- Double side cooling.
- Voltage grade upto 2000V
- Weight 82gm (Approx.)

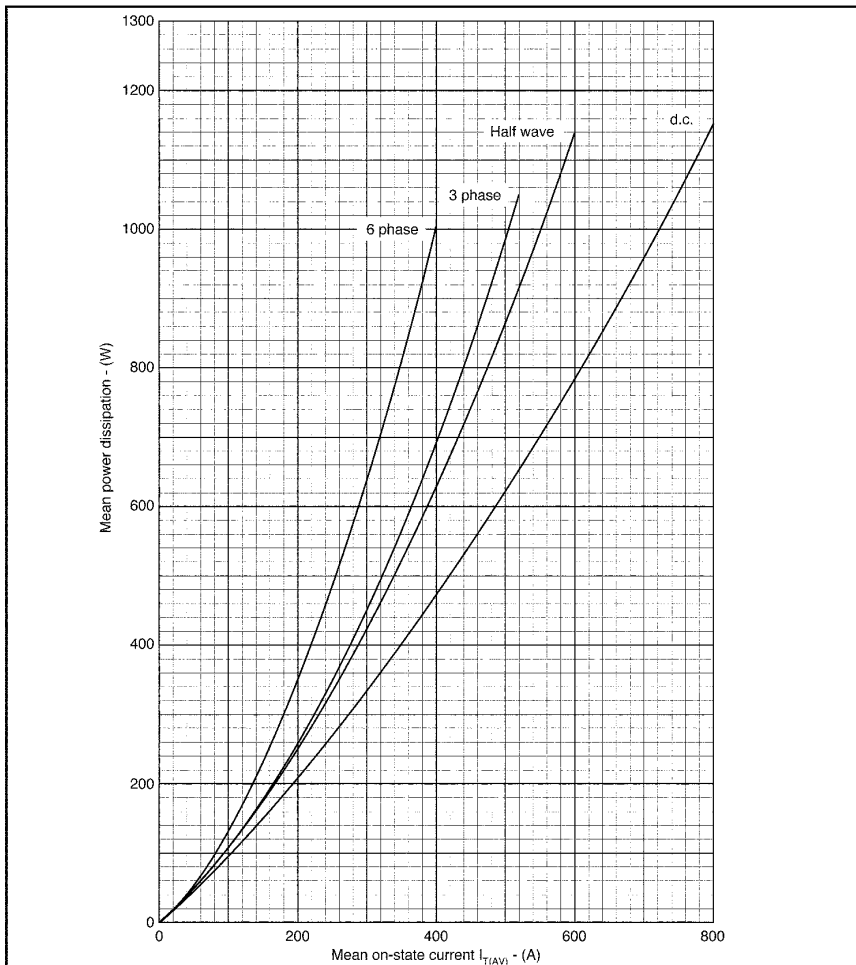
Symbol	Conditions	Values
$I_{T(AV)}$	Half wave resistive load; $T_C = 60^\circ C$	706 A
$I_{TSM}$	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 50\% V_{RRM}$	6.5 KA
	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	8.1 KA
$I^2t$	$T_{vj} = 125^\circ C$ , 10 ms half sine, $V_R = 50\% V_{RRM}$	210000 A <sup>2</sup> s
	$T_{vj} = 125^\circ C$ ; 10 ms half sine, $V_R = 0$	330000 A <sup>2</sup> s
$I_{GT}$	$T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$	150 mA
$V_{GT}$	$T_{vj} = 25^\circ C$ ; $V_{DRM} = 5V$	3.0V
$dv/dt$	$T_{vj} = 125^\circ C$ ; Voltage = 67 % $V_{DRM}$	*200V/ $\mu$ s
$[di/dt]_{CR}$	Repetitive 50 Hz	350 A/ $\mu$ s
$V_T$	$T_{vj} = 25^\circ C$ ; $I_T = 1000 A$	1.625 V max
$V_O$	$T_{vj} = 125^\circ C$	0.93 V
$R_O$	$T_{vj} = 125^\circ C$	0.667 m
$I_{RRM}/I_{DRM}$	$T_{vj} = 125^\circ C$	30 mA
$I_H$	$T_j = 25^\circ C$ ; $R_{\theta-K} =$	70 mA
$I_L$	$T_j = 25^\circ C$ ; $V_D = 5V$	500 mA
$R_{th(j-c)}$	dc	0.041 $^\circ C/W$
$R_{th(c-h)}$		0.018 $^\circ C/W$
$T_{vj}$		+125 $^\circ C$
$T_{stg}$		-40....+125 $^\circ C$
Mounting Force		8.8 KN
Case outline		E

\* Higher dv/dt selection available.

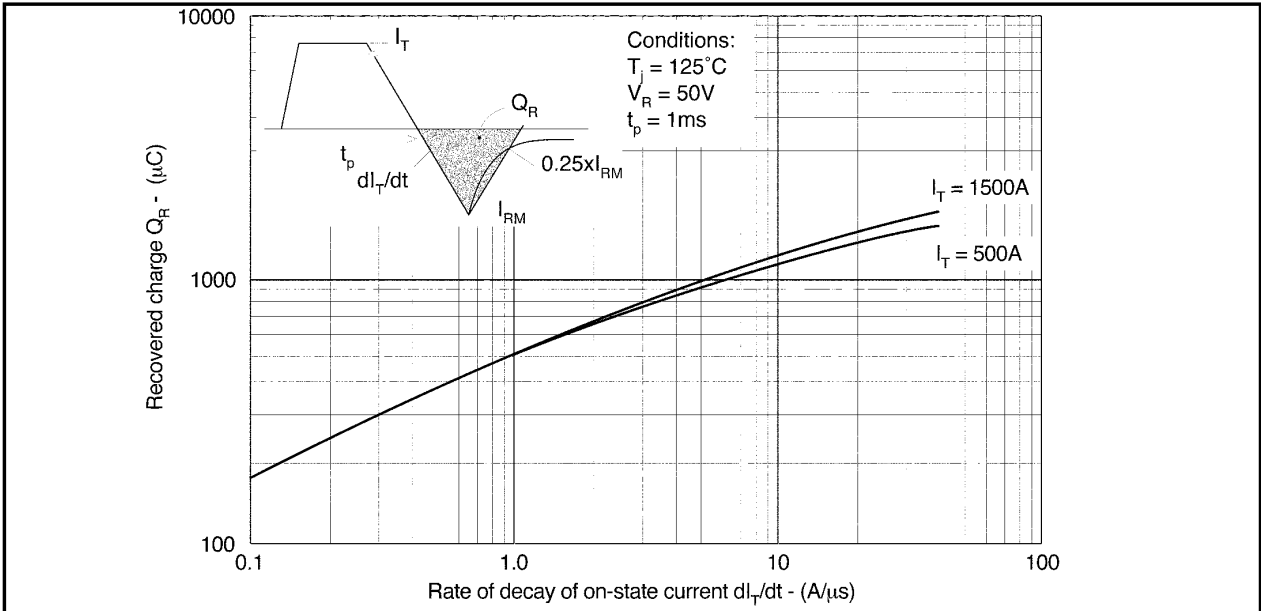




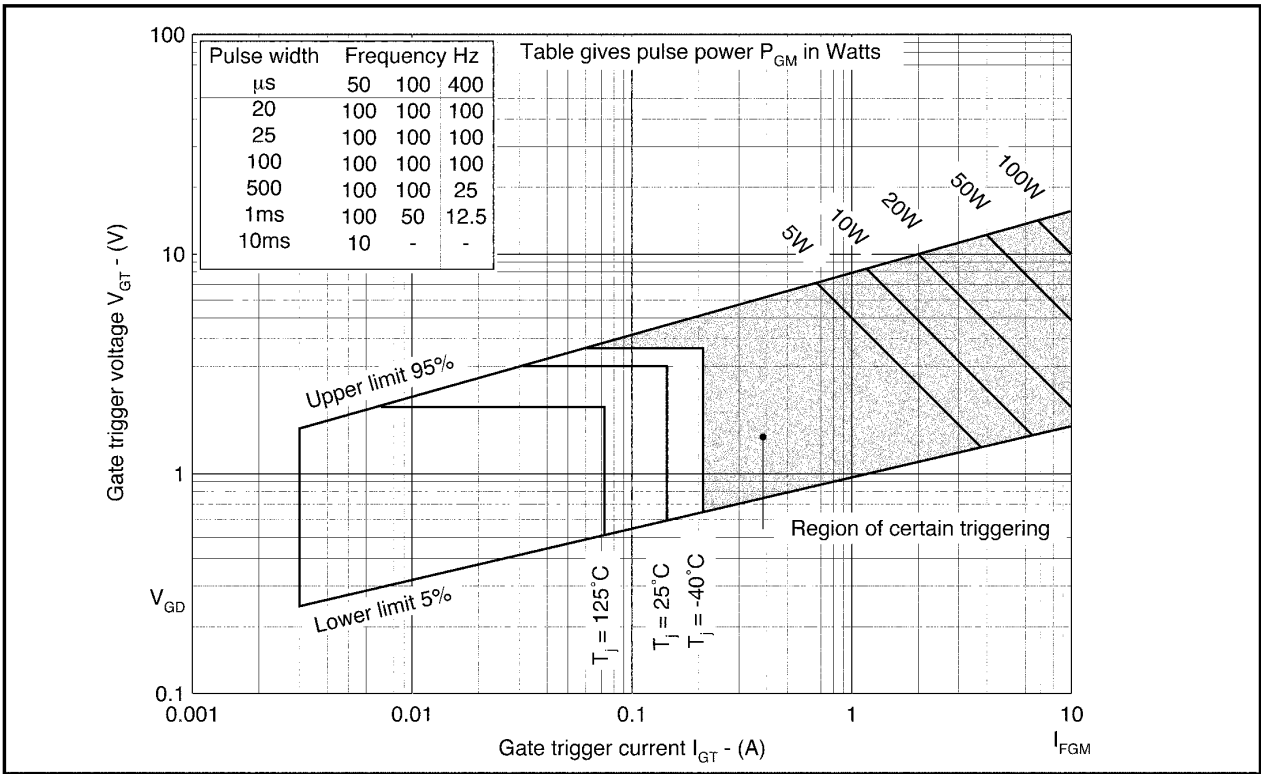
Maximum (limit) on-state characteristics



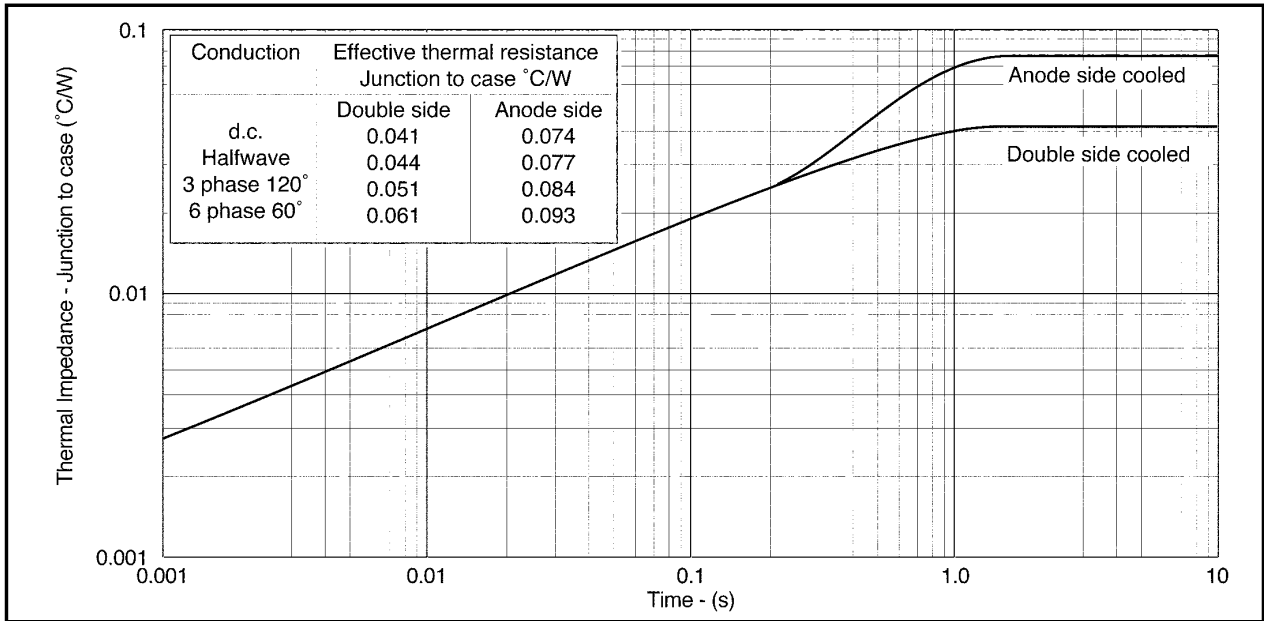
Dissipation curves



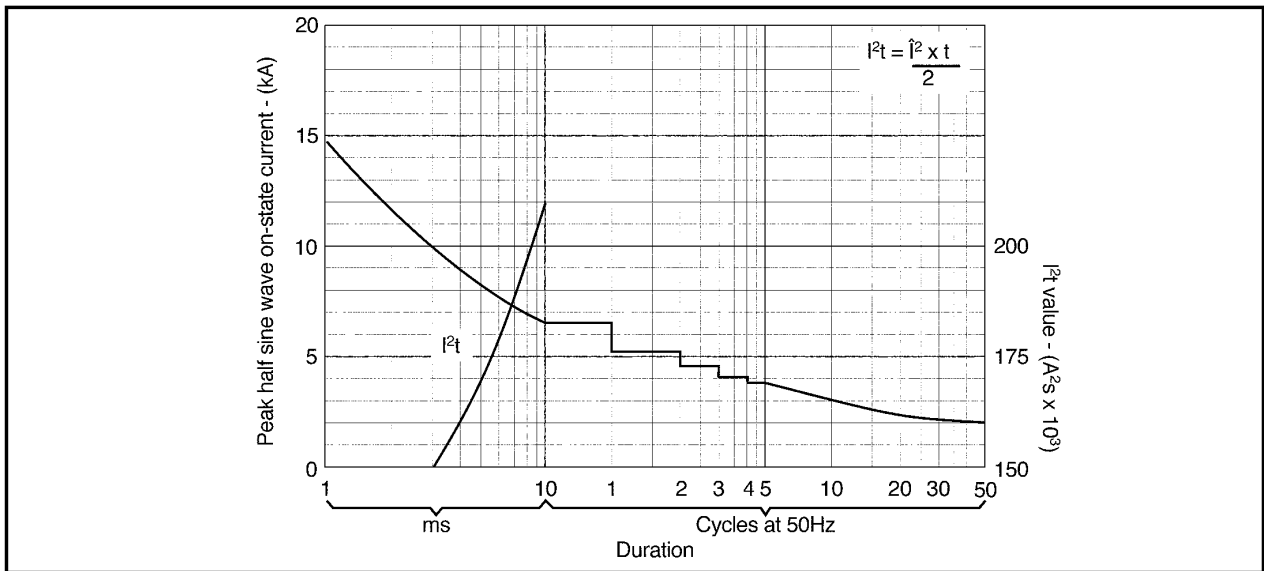
Recovered charge



Gate characteristics



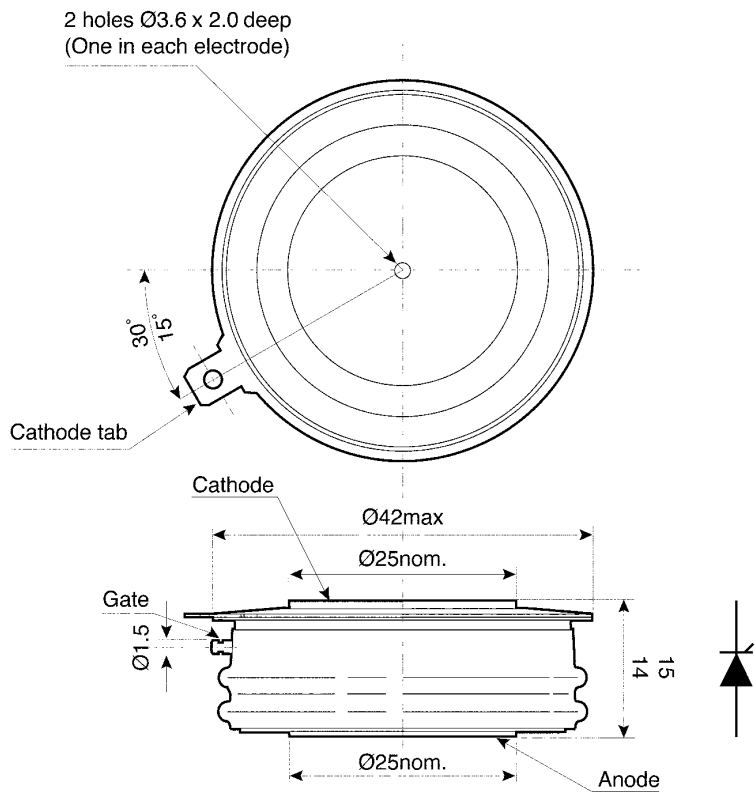
Maximum (limit) transient thermal impedance - junction to case



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

# PACKAGE OUTLINE - E

DO NOT SCALE



Nominal weight: 82g  
Clamping force: 8.8kN

All dimensions in mm

**Package outline : E**