



Symbol	Test Conditions	Characteristic Value
$I_D, I_R$	$T_{VJ} = T_{VJM}, V_R = V_{RRM}, V_D = V_{DRM}$	$\leq 5$ mA
$V_T$	$I_T = 80A, T_{VJ} = 25^\circ C$	$\leq 1.64$ V
$V_{TO}$	For power-loss calculations only ( $T_{VJ} = T_{VJM}$ )	0.85 V
$r_T$		11 m $\Omega$
$V_{GT}$	$V_D = 6V$ $T_{VJ} = 25^\circ C$ $T_{VJ} = -40^\circ C$	$\leq 1.0$ V $\leq 1.6$ V
$I_{GT}$	$V_D = 6V$ $T_{VJ} = 25^\circ C$ $T_{VJ} = -40^\circ C$	$\leq 100$ mA $\leq 150$ mA
$V_{GD}$	$T_{VJ} = T_{VJM}$ $V_D = 2/3 V_{DRM}$	$\leq 0.2$ V
$I_{GD}$	$T_{VJ} = T_{VJM}$ $V_D = 2/3 V_{DRM}$	$\leq 5$ mA
$I_L$	$T_{VJ} = 25^\circ C, t_p = 10\mu s$ $I_G = 0.3A, di_G/dt = 0.3A/\mu s$	$\leq 200$ mA
$I_H$	$T_{VJ} = 25^\circ C, V_D = 6V, R_{GK} = \infty$	$\leq 150$ mA
$t_{gd}$	$T_{VJ} = 25^\circ C, V_D = 1/2 V_{DRM}$ $I_G = 0.3A, di_G/dt = 0.3A/\mu s$	$\leq 2$ $\mu s$
$t_q$	$T_{VJ} = T_{VJM}, I_T = 20A, t_p = 200\mu s, V_R = 100V$ $-di/dt = 10A/\mu s, dv/dt = 15V/\mu s, V_D = 2/3 V_{DRM}$	150 $\mu s$
$R_{thJC}$	per thyristor; sine 180°el per module	1.2 K/W 0.24 K/W
$R_{thJK}$	per thyristor; sine 180° el per module	1.31 K/W 0.262 K/W
$d_s$	Creeping distance on surface	8.0 mm
$d_A$	Creeping distance in air	4.5 mm
$a$	Max. allowable acceleration	50 m/s <sup>2</sup>

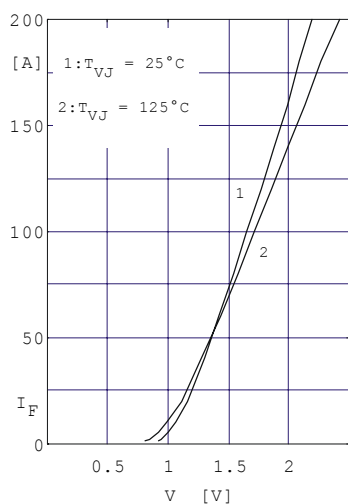


Fig. 1 Forward current vs. voltage drop per diode or thyristor

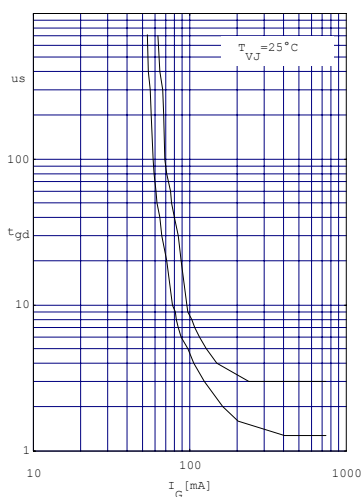


Fig. 2 Gate trigger delay time

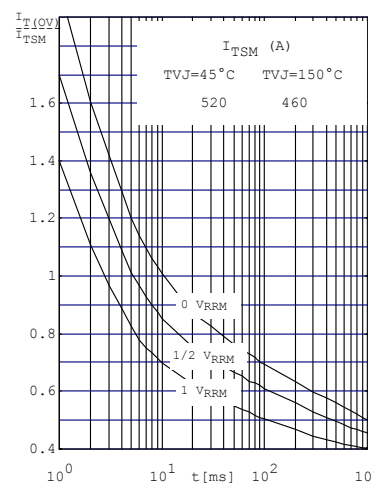


Fig. 3 Surge overload current per diode (or thyristor)  $I_{FSM}$ ,  $I_{TSM}$ : Crest value t: duration

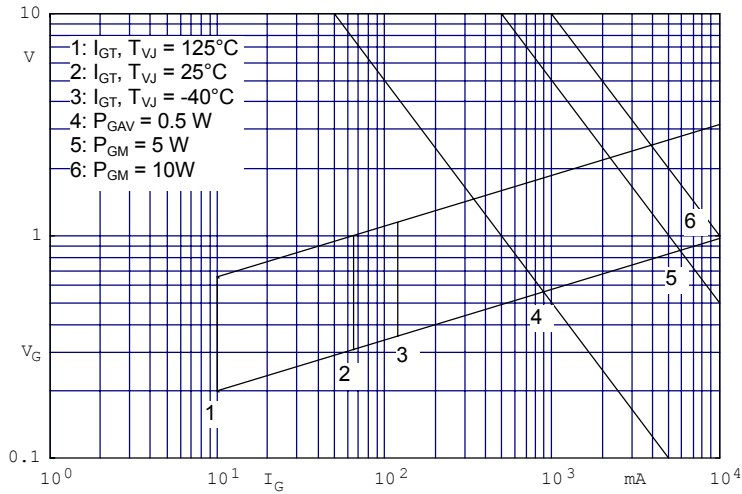


Fig.4 Gate trigger characteristic

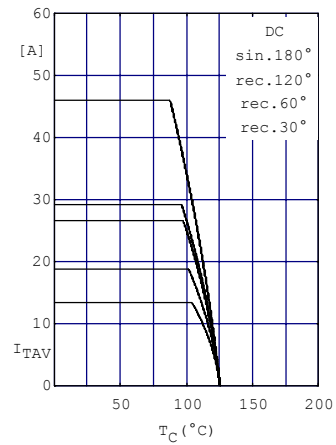


Fig.5 Maximum forward current at case temperature

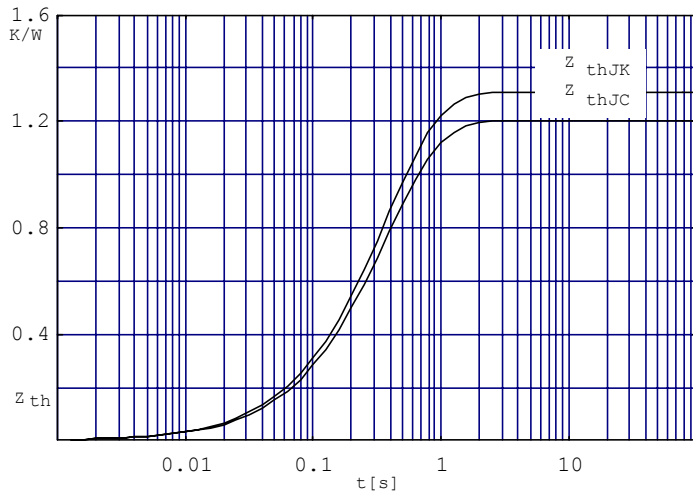


Fig.6 Transient thermal impedance per thyristor or diode (calculated)

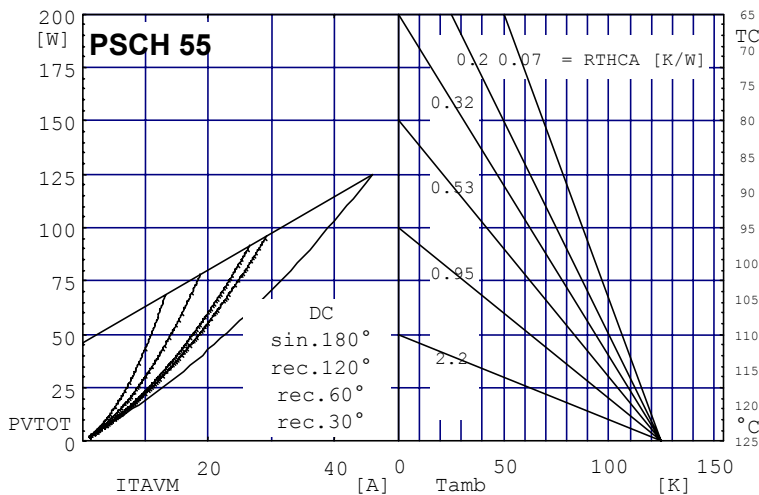


Fig. 7 Power dissipation vs. direct output current and ambient temperature