Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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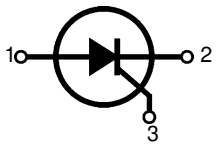
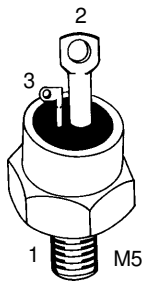
Phase Control Thyristors

V_{RRM} = 800-1200 V
$I_{T(RMS)}$ = 25 A
$I_{T(AV)M}$ = 16 A

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
900	800	CS 8-08io2
1300	1200	CS 8-12io2



TO-64



1 = Anode, 2 = Cathode, 3 = Gate

Symbol	Test Conditions		Maximum Ratings	
$I_{T(RMS)}$	$T_{VJ} = T_{VJM}$		25	A
$I_{T(AV)M}$	T_{case} = 85°C; 180° sine		16	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	250	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	270	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	200	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	220	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	310	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	306	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	200	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 Hz, t_P = 200 µs V_D = 2/3 V_{DRM} I_G = 0.2 A di_G/dt = 0.2 A/µs	repetitive, I_T = 48 A	150	A/µs
		non repetitive, $I_T = I_{T(AV)M}$	500	A/µs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; R_{GK} = ∞; method 1 (linear voltage rise)	V_{DR} = 2/3 V_{DRM}	1000	V/µs
P_{GM}	$T_{VJ} = T_{VJM}$	t_P = 30 µs	10	W
	$I_T = I_{T(AV)M}$	t_P = 300 µs	5	W
$P_{G(AV)}$			0.5	W
V_{RGM}			10	V
T_{VJ}			-40...+125	°C
T_{VJM}			125	°C
T_{stg}			-40...+125	°C
M_d	Mounting torque		2.5	Nm
			22	lb.in.
Weight			6	g

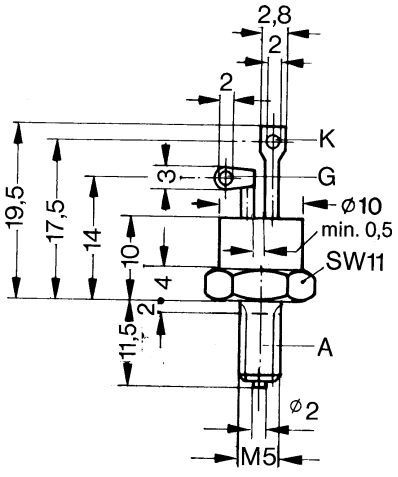
Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions

Features
- Thyristor for line frequencies
- International standard package JEDEC TO-64
- Planar glassivated chip
- Long-term stability of blocking currents and voltages

Applications
- Motor control
- Power converter
- AC power controller

Advantages
- Space and weight savings
- Simple mounting
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Symbol	Test Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	3	mA
V_T	I_T = 33 A; T_{VJ} = 25°C		≤	1.6	V
V_{T0}	For power-loss calculations only (T_{VJ} = 125°C)			1.0	V
r_T				18	mΩ
V_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	2.5	V
		T_{VJ} = -40°C	≤	3.5	V
I_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	30	mA
		T_{VJ} = -40°C	≤	50	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	V_D = 2/3 V_{DRM}	≤	0.2	V
I_{GD}			≤	1	mA
I_L	T_{VJ} = 25°C; t_P = 10 µs I_G = 0.09 A; di_G/dt = 0.09 A/µs		≤	100	mA
I_H	T_{VJ} = 25°C; V_D = 6 V; R_{GK} = ∞		≤	80	mA
t_{gd}	T_{VJ} = 25°C; V_D = 1/2 V_{DRM} I_G = 0.09 A; di_G/dt = 0.09 A/µs		≤	2	µs
t_q	$T_{VJ} = T_{VJM}$; I_T = 16 A, t_P = 300 µs; di/dt = -20 A/µs V_R = 100 V; dv/dt = 20 V/µs; V_D = 2/3 V_{DRM}		typ.	60	µs
R_{thJC}	DC current			1.5	K/W
R_{thJH}	DC current			2.5	K/W
d_S	Creepage distance on surface			1.55	mm
d_A	Strike distance through air			1.55	mm
a	Max. acceleration, 50 Hz			50	m/s^2

Accessories:
Nut M5 DIN 439/SW8
Lock washer A5 DIN 128

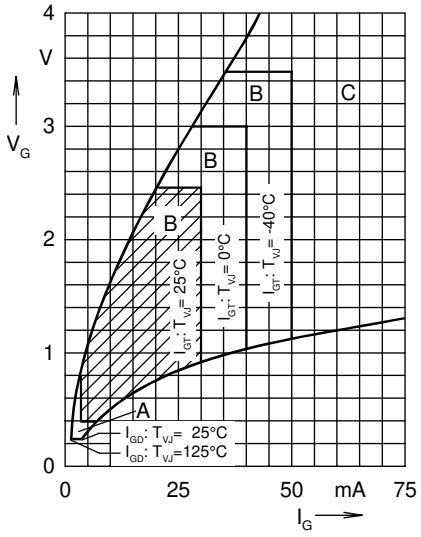


Fig. 1 Gate voltage and gate current
Triggering:
A = no; B = possible; C = safe

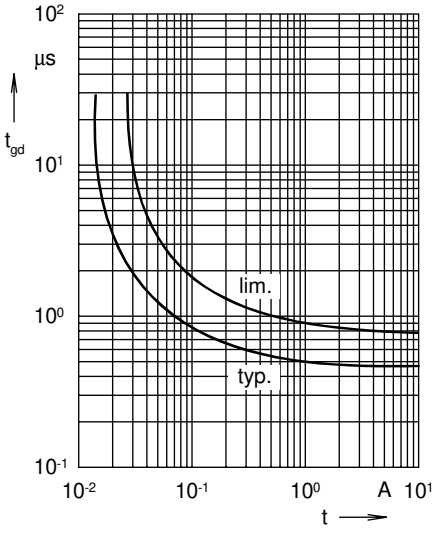


Fig. 2 Gate controlled delay time t_{gd}

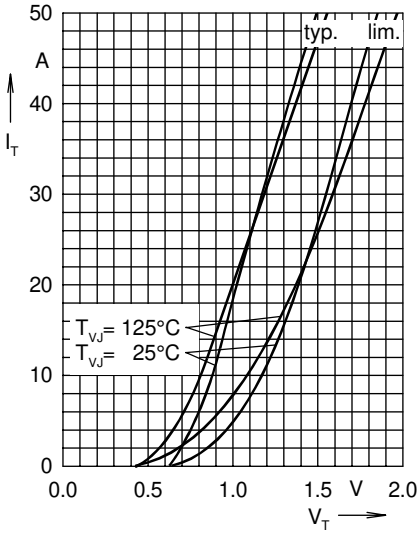


Fig. 3 On-state characteristics

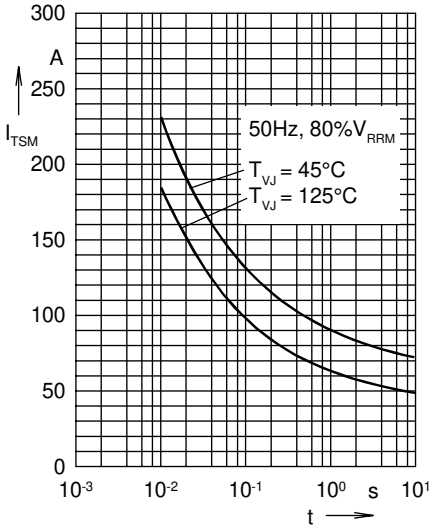


Fig. 4 Surge overload current
I_{TSM}: crest value, t: duration

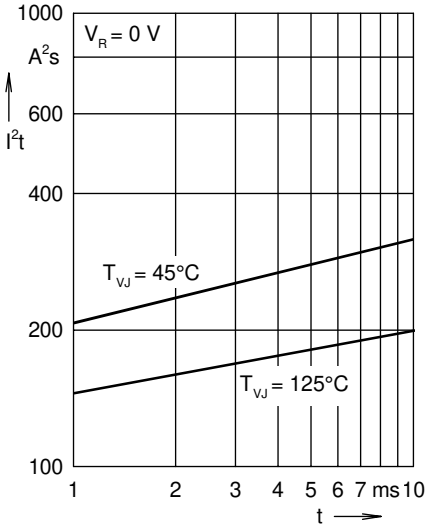


Fig. 5 I^2t versus time (1-10 ms)

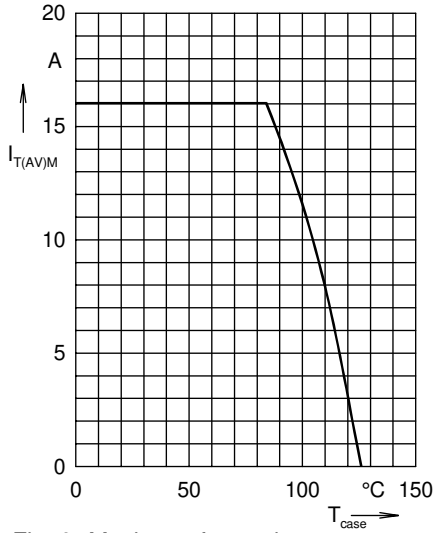


Fig. 6 Maximum forward current at case temperature 180° sine

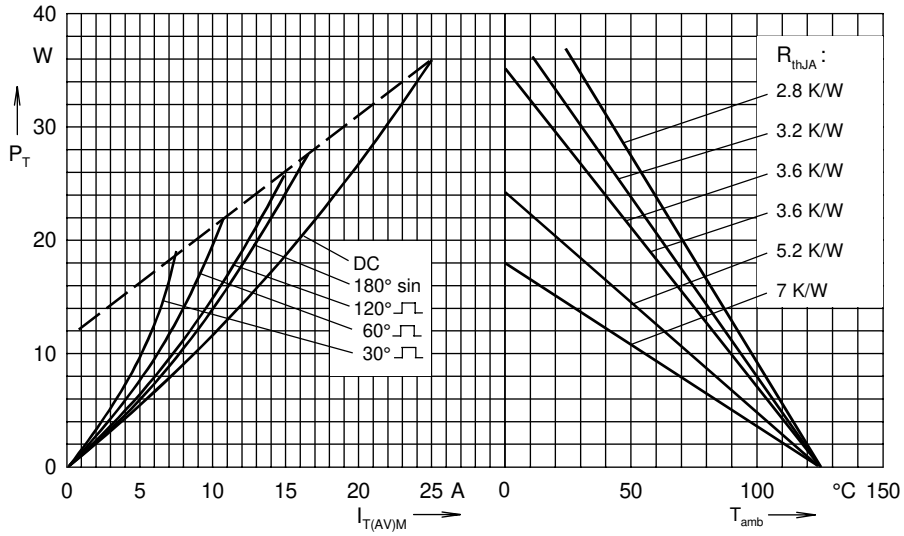


Fig. 7 Power dissipation versus on-state current and ambient temperature

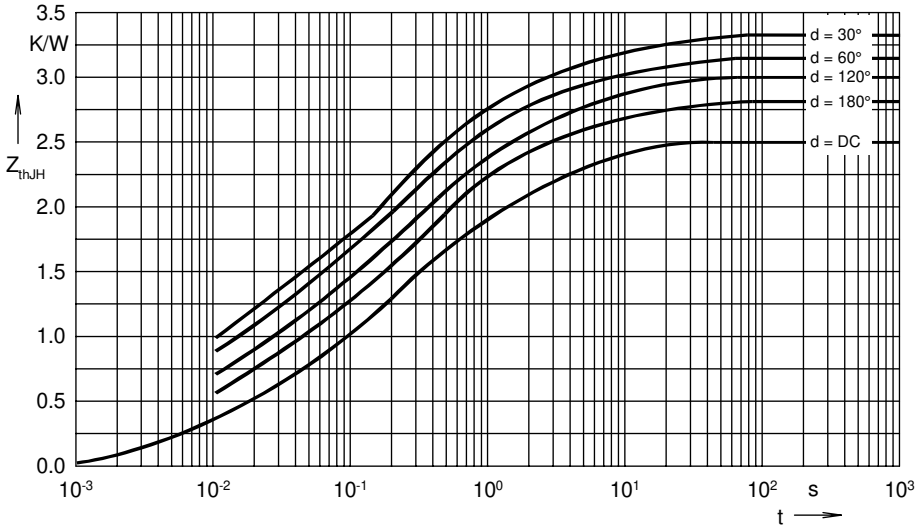


Fig. 8 Transient thermal impedance junction to heatsink

R_{thJH} for various conduction angles d:

d	R_{thJH} (K/W)
DC	2.5
180°	2.79
120°	2.95
60°	3.17
30°	3.32

Constants for Z_{thJH} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.252	0.005
2	0.333	0.0225
3	0.5	0.145
4	0.833	0.43
5	0.416	2.75
6	0.166	23