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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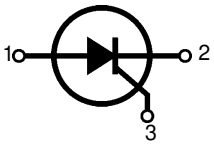
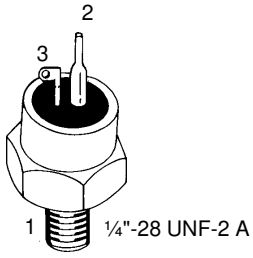
Phase Control Thyristors

V_{RRM} = 800-1400 V
$I_{T(RMS)}$ = 120 A
$I_{T(AV)M}$ = 69 A

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
900	800	CS 35-08io4
1300	1200	CS 35-12io4
1500	1400	CS 35-14io4



TO-208AC
(TO-65)



1 = Anode, 2 = Cathode, 3 = Gate

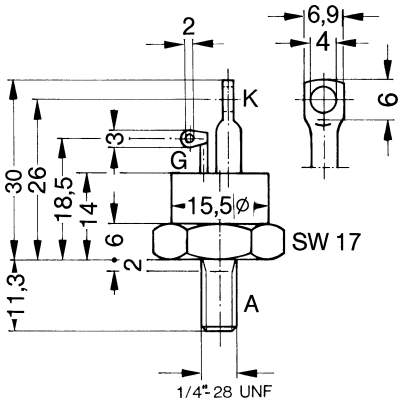
Symbol	Test Conditions		Maximum Ratings	
$I_{T(RMS)}$	$T_{VJ} = T_{VJM}$		120	A
$I_{T(AV)M}$	T_{case} = 85°C; 180° sine		63	A
	T_{case} = 80°C; 180° sine		69	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	1200	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	1340	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	1100	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	1250	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	7200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	7550	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	6050	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	6500	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, I_T = 150 A	150	A/µs
	f = 50 Hz, t_P = 200 µs			
	V_D = 2/3 V_{DRM}			
	I_G = 0.5 A	non repetitive, $I_T = I_{T(AV)M}$	400	A/µs
	di_G/dt = 0.5 A/µs			
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$;	V_{DR} = 2/3 V_{DRM}	1000	V/µs
	R_{GK} = ∞; method 1 (linear voltage rise)			
P_{GM}	$T_{VJ} = T_{VJM}$	t_P = 30 µs	10	W
	$I_T = I_{T(AV)M}$	t_P = 500 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			20	g

Features
- Thyristor for line frequencies
- International standard package JEDEC TO-208AC
- 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")



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

Symbol	Test Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	10	mA
V_T	I_T = 150 A; T_{VJ} = 25°C		≤	1.5	V
V_{T0}	For power-loss calculations only (T_{VJ} = 125°C)			0.85	V
r_T				3.5	mΩ
V_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	1.5	V
		T_{VJ} = -40°C	≤	1.9	V
I_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	100	mA
		T_{VJ} = -40°C	≤	200	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 = 30 µs I_G = 0.1 A; di_G/dt = 0.1 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 = 0.1 A; di_G/dt = 0.1 A/µs		≤	2	µs
t_q	$T_{VJ} = T_{VJM}$; I_T = 50 A, t_P = 200 µs; di/dt = -10 A/µs V_R = 100 V; dv/dt = 10 V/µs; V_D = 2/3 V_{DRM}		typ.	100	µs
R_{thJC}	DC current			0.4	K/W
R_{thJH}	DC current			0.6	K/W
d_S	Creepage distance on surface			1.7	mm
d_A	Strike distance through air			1.7	mm
a	Max. acceleration, 50 Hz			50	m/s^2

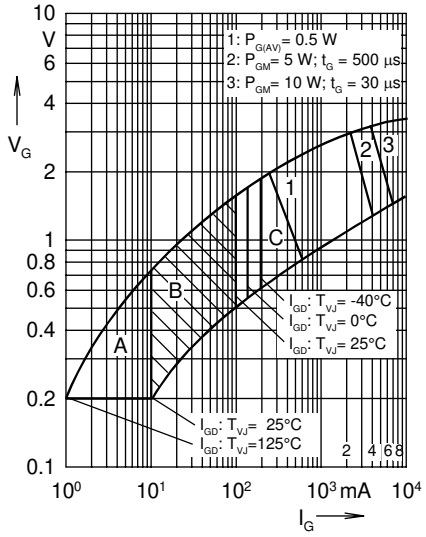


Fig. 1 Gate trigger range
Triggering:
A = no; B = possible, C = safe

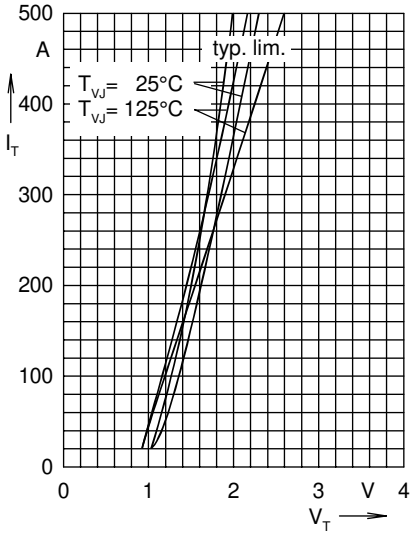


Fig. 2 On-state characteristics

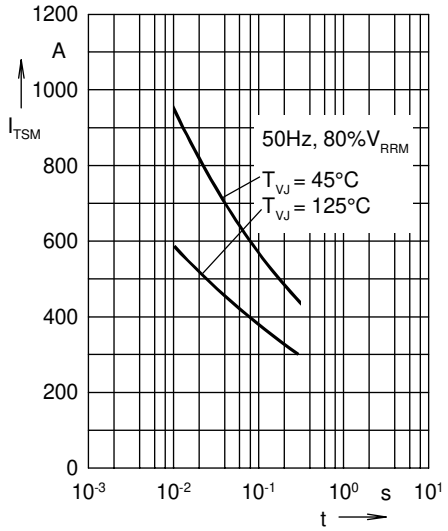


Fig. 3 Surge overload current
I_{TSM}: crest value, t: duration

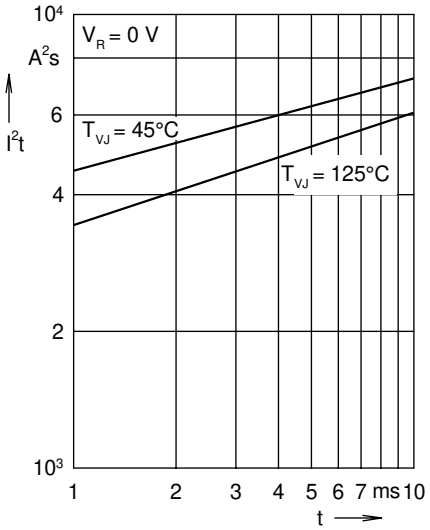


Fig. 4 I^2t versus time (1-10 ms)

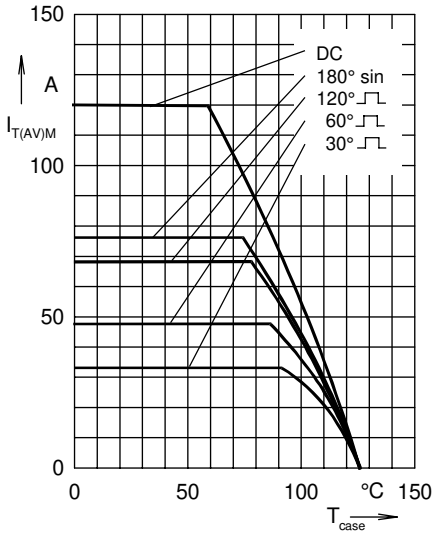


Fig. 5 Maximum forward current at case temperature

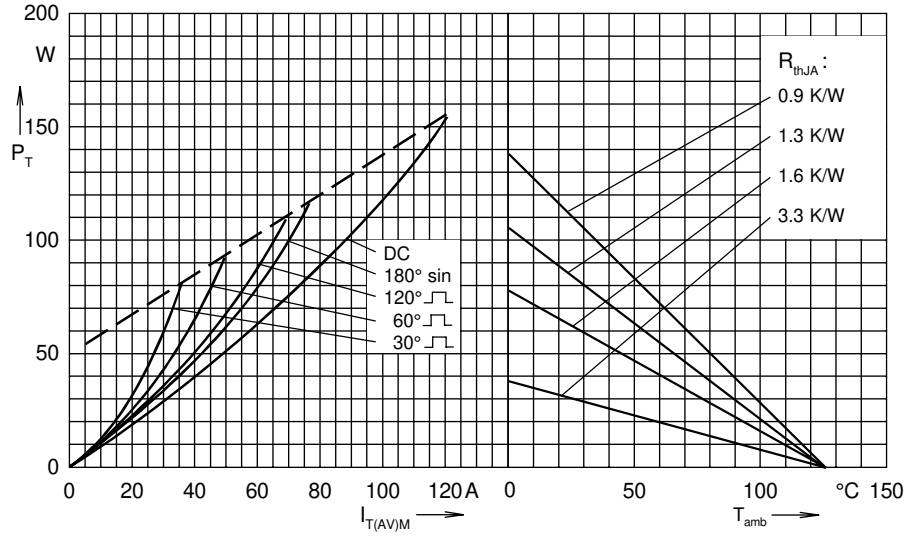


Fig. 6 Power dissipation versus on-state current and ambient temperature

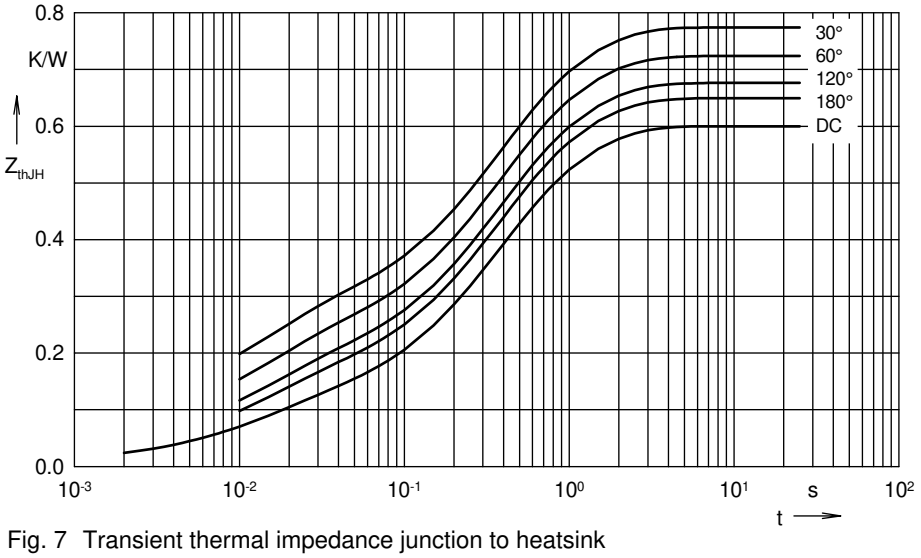


Fig. 7 Transient thermal impedance junction to heatsink

R_{thJH} for various conduction angles d:

d	R_{thJH} (K/W)
DC	0.6
180°	0.65
120°	0.677
60°	0.725
30°	0.775

Constants for Z_{thJH} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.01	0.001
2	0.09	0.013
3	0.30	0.3
4	0.20	0.9