Chipsmall

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!

Contact us

AC Controller Modules

I_{RMS} = 2x 30 A
V_{RRM} = 800-1600 V

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
800	800	VW2x30-08io1
1200	1200	VW2x30-12io1
1400	1400	VW2x30-14io1
1600	1600	VW2x30-16io1
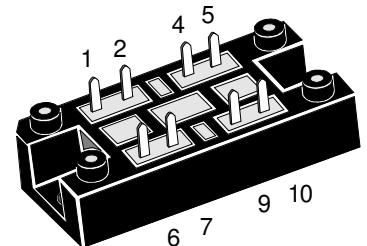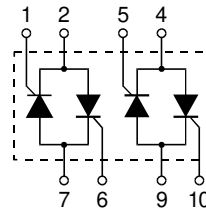
Symbol	Test Conditions		Maximum Ratings	
I_{RMS}	T_C = 85°C, (per phase)		30	A
I_{TRMS}	T_{VJ} = T_{VJM}		22	A
I_{TAVM}	T_C = 85°C; (180° sine ; per thyristor)		14	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	200	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	210	A
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	180	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	190	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	190	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	160	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	150	A^2s
$(di/dt)_{cr}$	T_{VJ} = T_{VJM} f =50 Hz, t_P =200 μs V_D = 2/3 V_{DRM}	repetitive, I_T = 45 A	100	A/μs
	I_G = 0.45 A di_G/dt = 0.45 A/μs	non repetitive, I_T = I_{TAVM}	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_{TAVM}	t_p = 300 μs	5	W
P_{GAVM}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40...+125	°C
T_{VJM}			125	°C
T_{stg}			-40...+125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min	3000	V~
	I_{ISOL} ≤ 1 mA	t = 1 s	3600	V~
M_d	Mounting torque (M5)		2-2.5/18-22	Nm/lb.in.
Weight	typ.		35	g

Features

- Thyristor controller for AC (circuit W2C acc. to IEC) for mains frequency
- Soldering connections for PCB mounting
- Isolation voltage 3600 V~
- Planar passivated chips
- UL applied

Applications

- Switching and control of three phase AC circuits
- Softstart AC motor controller
- Solid state switches
- Light and temperature control

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Data according to IEC 60747 refer to a single thyristor/diode unless otherwise stated.
IXYS reserves the right to change limits, test conditions and dimensions

739

Symbol	Test Conditions		Characteristic Values		
I_D, I_R	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		$\leq$	5	mA
V_T	$I_T = 45$ A; $T_{VJ} = 25°C$		$\leq$	1.81	V
V_{T0}	For power-loss calculations only			0.8	V
r_T				25	mΩ
V_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	1.5	V
		$T_{VJ} = -40°C$	$\leq$	1.6	V
I_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	100	mA
		$T_{VJ} = -40°C$	$\leq$	200	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	$V_D = 2/3\ V_{DRM}$	$\leq$	0.2	V
I_{GD}			$\leq$	5	mA
I_L	$T_{VJ} = 25°C$; $t_P = 10$ μs		$\leq$	450	mA
	$I_G = 0.45$ A; $di_G/dt = 0.45$ A/μs				
I_H	$T_{VJ} = 25°C$; $V_D = 6$ V; $R_{GK} = \infty$		$\leq$	200	mA
t_{gd}	$T_{VJ} = 25°C$; $V_D = 1/2\ V_{DRM}$		$\leq$	2	μs
	$I_G = 0.45$ A; $di_G/dt = 0.45$ A/μs				
t_q	$T_{VJ} = T_{VJM}$; $I_T = 20$ A, $t_P = 200$ μs; $di/dt = -10$ A/μs		typ.	150	μs
	$V_R = 100$ V; $dv/dt = 15$ V/μs; $V_D = 2/3\ V_{DRM}$				
R_{thJC}	per thyristor; DC			1.7	K/W
	per module			0.43	K/W
R_{thJK}	per thyristor; DC			2.0	K/W
	per module			0.5	K/W
d_S	Creeping distance on surface			12.7	mm
d_A	Creepage distance in air			9.4	mm
a	Max. allowable acceleration			50	m/s^2

Fig. 1 Gate trigger characteristics

Fig. 2 Gate trigger delay time

Dimensions in mm (1 mm = 0.0394")

Fig. 3 Forward current versus voltage drop per leg
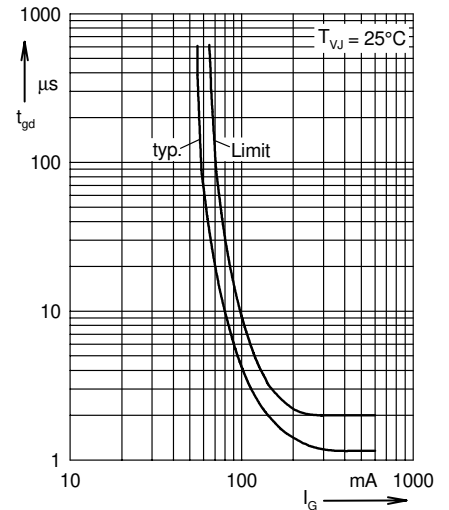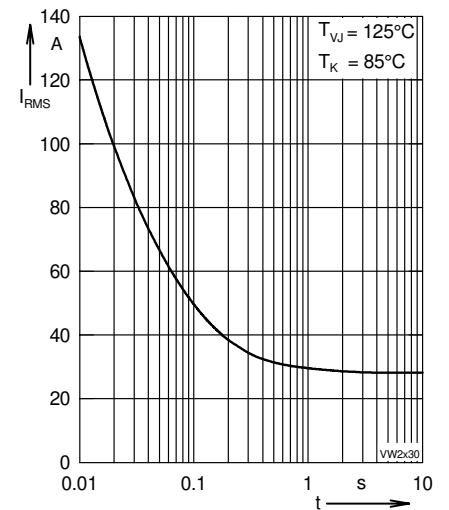

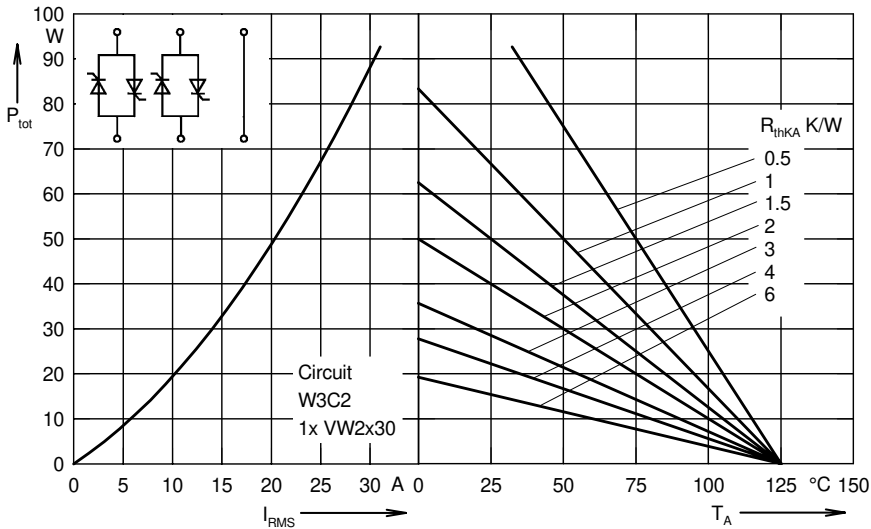Fig. 4 Rated RMS current versus time (360° conduction)

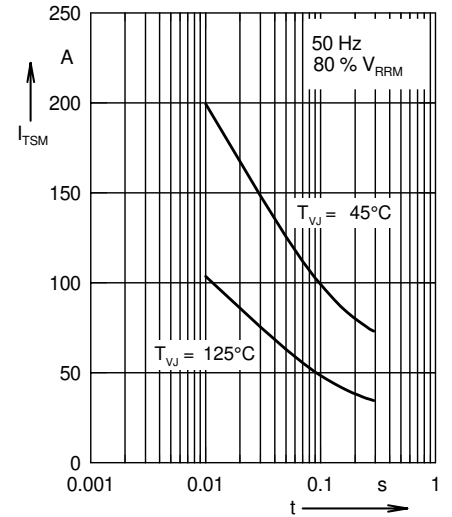Fig. 5 Load current capability for two phase AC controller
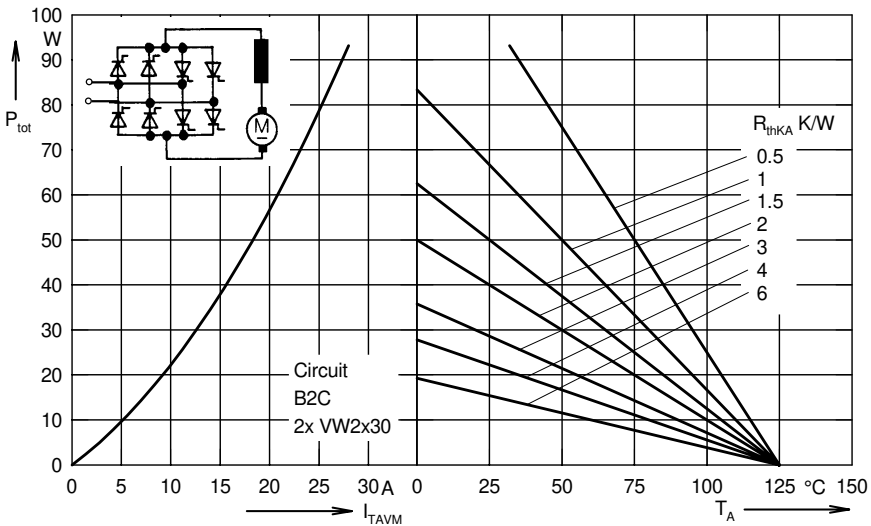

Fig. 6 Surge overload current

Fig. 7 Power dissipation versus direct output current and ambient temperature cyclo converter, four quadrant operation
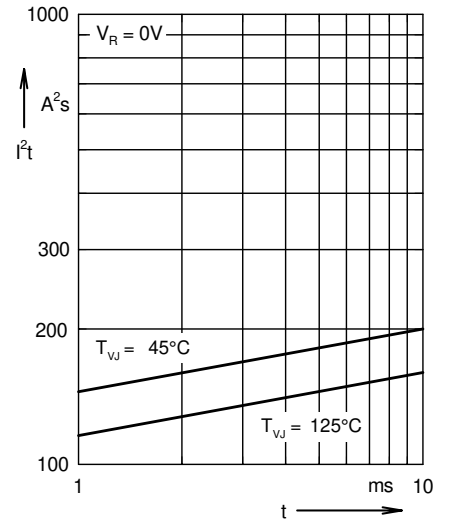

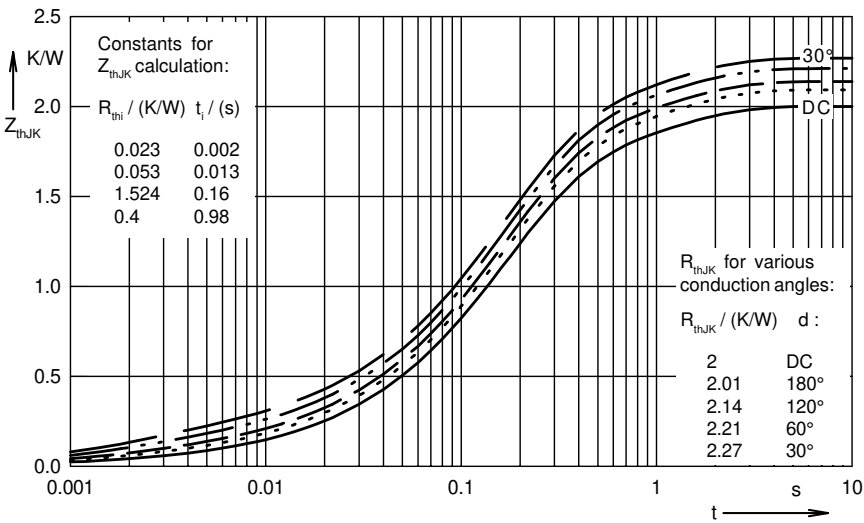Fig. 8 I²t versus time (per thyristor)

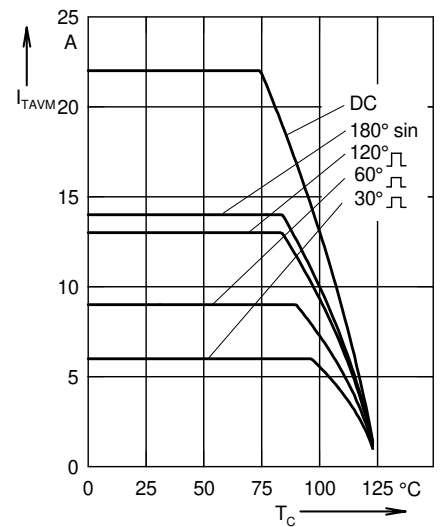Fig. 9 Transient thermal impedance junction to heatsink (per thyristor)

Fig. 10 Maximum forward current at case temperature