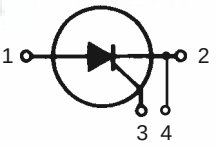
IXYS

Phase Control Thyristor CS 1250

I_{TRMS} = 3000 A
I_{TAVM} = 1250 A
V_{RRM} = 1200 - 1600 V

V_{RSM} V	V_{RRM} V	Type
1200	1200	CS 1250 - 12io1
1400	1400	CS 1250 - 14io1
1600	1600	CS 1250 - 16io1



Symbol	Test Conditions		Maximum Ratings	
I_{TRMS}			3000	A
I_{TAVM}	T_C = 83°C; 180° sine		1250	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	23000	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	25000	A
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	21000	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	23000	A
$\int i^2dt$	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	2645000	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	2594000	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	2205000	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	2195000	A^2s
$(di/dt)_{cr}$	T_{VJ} = T_{VJM} f = 5 Hz, t_P = 200 ms V_D = 1/2 V_{DRM} I_G = 2 A di_G/dt = 2 A/µs	repetitive, I_T = 2500 A	320	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	120	W
	I_T = I_{TAVM}	t_P = 500 µs	60	W
		t_P = 10 ms	16	W
V_{RGM}			5	V
T_{VJ}			-40...+125	°C
T_{VJM}			125	°C
T_{stg}			-40...+ 50	°C
M_d	Mounting force		24.0 .. 28.0	kN
Weight			600	g

Features

- Thyristor for line frequency
- International standard package
- Long-term stability of blocking voltages
- Gate and auxiliary cathode pin connection
- Amplifying gate

Typical Applications

- DC Motor control
- Power converter
- AC power controller

Data according to DIN/IEC 747-6
IXYS reserves the right to change limits, test conditions and dimensions

Symbol	Test Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	60	mA
V_T	I_T = 3.14 x I_{TAVM} ; T_{VJ} = 25°C		≤	1.85	V
V_{T0}	For power-loss calculations only (T_{VJ} = 125°C)			1.0	V
r_T				0.21	mΩ
V_{GT}	V_D = 12 V;	T_{VJ} = 25°C	≤	3.0	V
I_{GT}	V_D = 12 V;	T_{VJ} = 25°C	≤	300	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	V_D = 2/3 V_{DRM}	≤	0.25	V
I_L	T_{VJ} = 25°C; t_P = 10 µs I_G = 2 A; di_G/dt = 2 A/µs		≤	1.0	A
I_H	T_{VJ} = 25°C; V_D = 12 V; R_{GK} = ∞		≤	0.3	A
t_{gd}	T_{VJ} = 25°C; V_D = 500 V I_G = 2 A; di_G/dt = 2 A/µs		≤	2.5	µs
t_q	$T_{VJ} = T_{VJM}$; I_T = 1250 A, t_P = 200 µs; di/dt = -10 A/µs V_R = 100 V; dv/dt = 50 V/µs; V_D = 2/3 V_{DRM}		typ.	150	µs
R_{thJC}	DC current			0.02	K/W

Dimensions in mm (1 mm = 0.0394")