



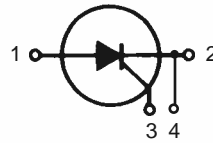
Phase Control Thyristor

CS 630

$I_{TRMS} = 1400 \text{ A}$
 $I_{TAVM} = 630 \text{ A}$
 $V_{RRM} = 1200 - 1600$

V

V_{RSM}	V_{RRM}	Type
V_{DSM}	V_{DRM}	
V	V	
1200	1200	CS 630-12io1
1400	1400	CS 630-14io1
1600	1600	CS 630-16io1



Symbol	Test Conditions	Maximum Ratings
I_{TRMS}	$T_C = 85^\circ\text{C}; 180^\circ \text{ sine}$	1400 A
I_{TAVM}		630 A
I_{TSM}	$T_{VJ} = 45^\circ\text{C}; V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$ 11500 A
		$t = 8.3 \text{ ms (60 Hz), sine}$ 12600 A
	$T_{VJ} = T_{VJM}; V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$ 10500 A
		$t = 8.3 \text{ ms (60 Hz), sine}$ 11500 A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}; V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$ 661250 A ² s
		$t = 8.3 \text{ ms (60 Hz), sine}$ 793800 A ² s
	$T_{VJ} = T_{VJM}; V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$ 551250 A ² s
		$t = 8.3 \text{ ms (60 Hz), sine}$ 661250 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}; f = 5 \text{ Hz}; t_p = 200 \text{ ms}; V_D = 0.67 V_{DRM}; I_G = 2 \text{ A}; di_G/dt = 2 \text{ A}/\mu\text{s}$	repetitive, $I_T = 2500 \text{ A}$ 320 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}; R_{GK} = \infty; \text{method 1 (linear voltage rise)}$	$V_{DR} = 2/3 V_{DRM}$ 1000 V/ μs
P_{GM}	$T_{VJ} = T_{VJM}; I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$ 120 W
		$t_p = 500 \mu\text{s}$ 60 W
		$t_p = 10 \text{ ms}$ 16 W
V_{RGM}		10 V
T_{VJ}		-40...+125 °C
T_{VJM}		125 °C
T_{stg}		-40...+ 50 °C
M_d	Mounting force	16.0 .. 19.0 kN
Weight		210 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
$I_{R'} I_D$	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	≤ 50 mA
V_T	$I_T = 3.14 I_{TAVM}; T_{VJ} = 25^\circ\text{C}$	≤ 1.95 V
V_{T0}	For power-loss calculations only ($T_{VJ} = 125^\circ\text{C}$)	1.05 V
r_T		0.45 mW
V_{GT}	$V_D = 12$ V; $T_{VJ} = 25^\circ\text{C}$	≤ 2.5 V
I_{GT}	$V_D = 12$ V; $T_{VJ} = 25^\circ\text{C}$	≤ 280 mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	≤ 0.25 V
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10$ μs $I_G = 2$ A; $di_G/dt = 2$ A/ μs	≤ 1.5 A
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 12$ V; $R_{GK} = \infty$	≤ 0.75 A
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = 500$ V $I_G = 2$ A; $di_G/dt = 2$ A/ μs	≤ 2.0 μs
t_q	$T_{VJ} = T_{VJM}; I_T = 630$ A; $t_p = 200$ μs ; $di/dt = -10$ A/ μs typ. $V_R = 100$ V; $dv/dt = 50$ V/ μs ; $V_D = 2/3 V_{DRM}$	150 μs
R_{thJC}		0.035 K/W

Dimensions in mm (1 mm = 0.0394")
