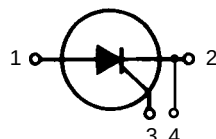


Phase Control Thyristor

CS 800

$I_{TRMS} = 1600 \text{ A}$
 $I_{TAVM} = 800 \text{ A}$
 $V_{RRM} = 1200 - 1600 \text{ V}$

V_{RSM}	V_{RRM}	Type
V_{DSM}	V_{DRM}	
V	V	
1200	1200	CS 800 - 12io1
1400	1400	CS 800 - 14io1
1600	1600	CS 800 - 16io1



Symbol	Test Conditions		Maximum Ratings	
I_{TRMS}	$T_C = 80^\circ\text{C}; 180^\circ \text{ sine}$		1600	A
I_{TAVM}			800	A
I_{TSM}	$T_{VJ} = 45^\circ\text{C};$ $V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$	15000	A
		$t = 8.3 \text{ ms (60 Hz), sine}$	16000	A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$	14000	A
		$t = 8.3 \text{ ms (60 Hz), sine}$	15300	A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$	1125000	A^2s
		$t = 8.3 \text{ ms (60 Hz), sine}$	1062400	A^2s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms (50 Hz), sine}$	980000	A^2s
		$t = 8.3 \text{ ms (60 Hz), sine}$	980000	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $f = 5 \text{ Hz}, t_p = 200 \text{ ms}$ $V_D = 1/2 V_{DRM}$ $I_G = 2 \text{ A}$ $di_G/dt = 2 \text{ A}/\mu\text{s}$	repetitive, $I_T = 2500 \text{ A}$	320	$\text{A}/\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$	1000	$\text{V}/\mu\text{s}$
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}			5	V
T_{VJ}			-40...+125	$^\circ\text{C}$
T_{VJM}			125	$^\circ\text{C}$
T_{stg}			-40...+ 50	$^\circ\text{C}$
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

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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	$I_T = 3.14 I_{TAVM}; T_{VJ} = 25^\circ\text{C}$	≤ 1.7 V
V_{T0}	For power-loss calculations only ($T_{VJ} = 125^\circ\text{C}$)	0.95 V
r_T		0.33 mΩ
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	≤ 1.0 A
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 12$ V; $R_{GK} = \infty$	≤ 0.3 A
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = 500$ V $I_G = 2$ A; $di_G/dt = 2$ A/μs	≤ 2.5 μs
t_q	$T_{VJ} = T_{VJM}; I_T = 800$ 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")

