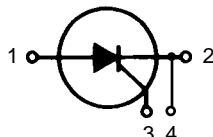


Phase Control Thyristor

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	$\text{A}/\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM};$ $R_{GK} = \infty; \text{method 1 (linear voltage rise)}$	$V_{DR} = 2/3 V_{DRM}$	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	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	$\leq 50 \text{ mA}$
V_T	$I_T = 3.14 I_{TAVM}; T_{VJ} = 25^\circ\text{C}$	$\leq 1.7 \text{ V}$
V_{T0}	For power-loss calculations only ($T_{VJ} = 125^\circ\text{C}$)	0.95 V
r_T		$0.33 \text{ m}\Omega$
V_{GT}	$V_D = 12 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq 2.5 \text{ V}$
I_{GT}	$V_D = 12 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq 280 \text{ mA}$
V_{GD}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	$\leq 0.25 \text{ V}$
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 2 \text{ A}; di_G/dt = 2 \text{ A}/\mu\text{s}$	$\leq 1.0 \text{ A}$
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 12 \text{ V}; R_{GK} = \infty$	$\leq 0.3 \text{ A}$
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = 500 \text{ V}$ $I_G = 2 \text{ A}; di_G/dt = 2 \text{ A}/\mu\text{s}$	$\leq 2.5 \mu\text{s}$
t_q	$T_{VJ} = T_{VJM}; I_T = 800 \text{ A}; t_p = 200 \mu\text{s}; di/dt = -10 \text{ A}/\mu\text{s typ.}$ $V_R = 100 \text{ V}; dv/dt = 50 \text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$	$150 \mu\text{s}$
R_{thJC}		0.035 K/W

Dimensions in mm (1 mm = 0.0394")

