

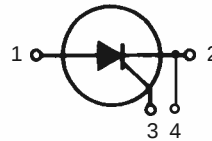


Phase Control Thyristor

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 ² s $t = 8.3\text{ ms (60 Hz), sine}$ 1062400 A ² s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10\text{ ms (50 Hz), sine}$ 980000 A ² s $t = 8.3\text{ ms (60 Hz), sine}$ 980000 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $f = 5\text{ Hz}, t_p = 200\text{ ms}$ $V_D = 1/2 V_{DRM}$ $I_G = 2\text{ A}$ $di_G/dt = 2\text{ A}/\mu\text{s}$	repetitive, $I_T = 2500\text{ A}$ 320 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM};$ $R_{GK} = \infty;$ method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$ 1000 V/ μs
P_{GM}	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30\text{ }\mu\text{s}$ 120 W $t_p = 500\text{ }\mu\text{s}$ 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

Symbol	Test Conditions	Characteristic Values	
I_R, I_D	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	$\leq$	50 mA
V_T	$I_T = 3.14 I_{TAVM}; T_{VJ} = 25^\circ\text{C}$	$\leq$	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}	$V_D = 12\text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	2.5 V
I_{GT}	$V_D = 12\text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	280 mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	$\leq$	0.25 V
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10\text{ }\mu\text{s}$ $I_G = 2\text{ A}; di_G/dt = 2\text{ A}/\mu\text{s}$	$\leq$	1.0 A
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 12\text{ V}; R_{GK} = \infty$	$\leq$	0.3 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 μs
t_q	$T_{VJ} = T_{VJM}; I_T = 800\text{ A}; t_p = 200\text{ }\mu\text{s}; di/dt = -10\text{ A}/\mu\text{s typ.}$ $V_R = 100\text{ V}; dv/dt = 50\text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$	150	μs
R_{thJC}		0.035	K/W

Dimensions in mm (1 mm = 0.0394")

