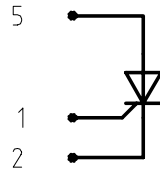


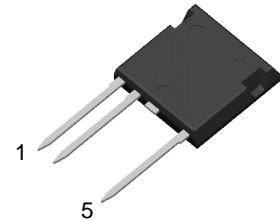
High Voltage Phase Control Thyristor

in High Voltage
ISOPLUS i4-PAC™

V_{RSM}	V_{RRM}	Type
V_{DSM}	V_{DRM}	
V	V	
2300	2200	CS 20-22moF1



$$\begin{aligned} V_{DRM} = V_{RRM} &= 2200 \text{ V} \\ I_{T(AV)} &= 18 \text{ A} \\ I_{TSM} &= 200 \text{ A} \end{aligned}$$



Thyristors

Symbol	Conditions	Maximum Ratings	
V_{DRM}, V_{RRM}		2200	V
$I_{T(AV)}$	sine 180°; $T_C = 90^\circ\text{C}$	18	A
$I_{T(AV)}$	square; $d = 1/3$; $T_C = 90^\circ\text{C}$	16	A
I_{TSM}	sine 180°; $t = 10 \text{ ms}$; $V_R = 0 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	200	A
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ repetitive, $I_T = 40 \text{ A}$ $f = 50 \text{ Hz}$, $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.45 \text{ A}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$	100	A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	2500	V/ μs
I_{cr}	$T_{VJ} = T_{VJM}$ non repetitive, $I_T = 20 \text{ A}$ $f = 50 \text{ Hz}$, $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.45 \text{ A}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$	250	A/ μs

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_T	$I_T = 20 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$	1.3	1.5	V
V_{GT}	$V_D = 6 \text{ V}$		2.3	V
I_{GT}			250	mA
V_{GD}	$T_{VJ} = T_{VJM}$; $V_D = 2/3 V_{DRM}$		0.2	V
I_{GD}			5	mA
I_L	$t_p = 10 \mu\text{s}$; $V_D = 6 \text{ V}$ $I_G = 0.45 \text{ A}$; $di_G/dt = 0.45 \text{ A}/\mu\text{s}$		500	mA
I_H	$V_D = 6 \text{ V}$; $R_{GK} = \infty$		150	mA
t_{gd}	$V_D = 1/2 V_{DRM}$ $I_G = 0.45 \text{ A}$; $di_G/dt = 0.45 \text{ A}/\mu\text{s}$		2	μs
I_R, I_D	$V_R = V_{RRM}$; $V_D = V_{DRM}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$	2	50	μA mA
R_{thJC}	DC current		0.92	K/W

Features

- high voltage thyristor
 - for line frequency
 - chip technology for long term stability
- ISOPLUS i4-PAC™ high voltage package
 - isolated back surface
 - enlarged creepage towards heatsink
 - enlarged creepage between high voltage pins
 - application friendly pinout
 - high reliability
 - industry standard outline

Applications

- controlled rectifiers
 - power supplies
 - drives
- AC switches
 - capacitor discharge control
 - flash tubes
 - x ray and laser generators

IXYS reserves the right to change limits, test conditions and dimensions.

© 2002 IXYS All rights reserved

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}		-40...+125	°C
T_{stg}		-55...+125	°C
V_{ISOL}	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
F_C	mounting force with clip	20...120	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
d_S, d_A	A pin - K pin	7		mm
d_S, d_A	pin - backside metal	5.5		mm
R_{thCH}	with heatsink compound	0.15		K/W
Weight		9		g

Dimensions in mm (1 mm = 0.0394")
