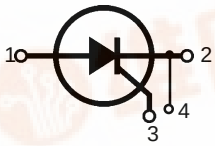
Phase Control Thyristors

V_{RRM} = 1200-1600 V
$I_{T(RMS)}$ = 260 A
$I_{T(AV)M}$ = 164 A

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
1300	1200	CS 142-12io8
1700	1600	CS 142-16io8

Not for new application



TO-209AC
(TO-94)

1 = Anode, 2 = Cathode,
3 = Gate, 4 = Auxiliary Cathode

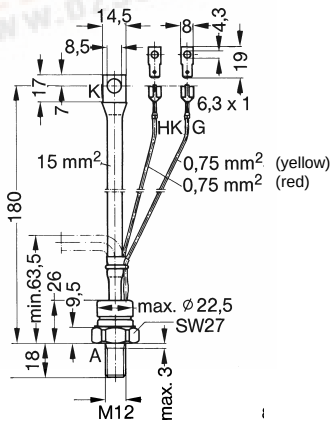
Symbol	Test Conditions		Maximum Ratings	
$I_{T(RMS)}$	$T_{VJ} = T_{VJM}$		260	A
$I_{T(AV)M}$	T_{case} = 85°C; 180° sine		140	A
	T_{case} = 75°C; 180° sine		164	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	3100	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	3270	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	2600	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	2800	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	48 000	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	45 000	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	33 800	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	32 000	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 Hz, t_P = 200 µs V_D = 1/2 V_{DRM} I_G = 0.5 A di_G/dt = 0.5 A/µs	repetitive, I_T = 500 A	150	A/µs
		non repetitive, $I_T = I_{T(AV)M}$	500	A/µs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; R_{GK} = ∞; method 1 (linear voltage rise)	V_{DR} = 2/3 V_{DRM}	1000	V/µs
P_{GM}	$T_{VJ} = T_{VJM}$	t_P = 30 µs	120	W
	$I_T = I_{T(AV)M}$	t_P = 500 µs	60	W
		t_P = 10 ms	16	W
V_{RGM}			10	V
T_{VJ}			-40...+125	°C
T_{VJM}			125	°C
T_{stg}			-40...+125	°C
M_d	Mounting torque		16-20	Nm
			142-177	lb.in.
Weight			110	g

Features
- Thyristor for line frequencies
- International standard package JEDEC TO-209AC
- Planar glassivated chip
- Long-term stability of blocking currents and voltages
- Gate and auxiliary cathode pin connection

Applications
- Motor control
- Power converter
- AC power controller

Advantages
- Space and weight savings
- Simple mounting
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions

Symbol	Test Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	15	mA
V_T	I_T = 300 A; T_{VJ} = 25°C		≤	1.35	V
V_{T0}	For power-loss calculations only (T_{VJ} = 125°C)			1.0	V
r_T				1.7	mΩ
V_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	2.5	V
		T_{VJ} = -40°C	≤	3.5	V
I_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	150	mA
		T_{VJ} = -40°C	≤	200	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	V_D = 2/3 V_{DRM}	≤	0.2	V
I_{GD}			≤	10	mA
I_L	T_{VJ} = 25°C; t_P = 10 µs I_G = 0.5 A; di_G/dt = 0.5 A/µs		≤	300	mA
I_H	T_{VJ} = 25°C; V_D = 6 V; R_{GK} = ∞		≤	200	mA
t_{gd}	T_{VJ} = 25°C; V_D = 1/2 V_{DRM} I_G = 0.5 A; di_G/dt = 0.5 A/µs		≤	2	µs
t_q	$T_{VJ} = T_{VJM}$; I_T = 50 A, t_P = 200 µs; di/dt = -10 A/µs V_R = 100 V; dv/dt = 20 V/µs; V_D = 2/3 V_{DRM}		typ.	150	µs
R_{thJC}	DC current			0.18	K/W
R_{thJH}	DC current			0.22	K/W
d_S	Creepage distance on surface			10.5	mm
d_A	Strike distance through air			10.5	mm
a	Max. acceleration, 50 Hz			50	m/s^2

Accessories:
Nut M12 DIN 439/SW27
Lock washer A12 DIN 128