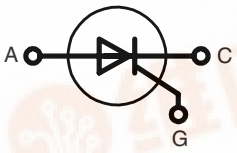
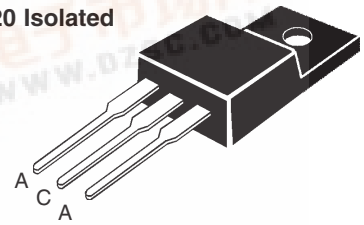
Phase Control Thyristors
Electrically Isolated Tab

V_{RRM} = 800-1200 V
$I_{T(AV)M}$ = 16 A

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
800	800	CS 22-08io1M
1200	1200	CS 22-12io1M



TO-220 Isolated



A = Anode, C = Cathode, G = Gate
Tab = Isolated

Symbol	Conditions		Maximum Ratings	
$I_{T(AV)M}$	T_C = 85°C 180° sine ①		16	A
	T_A = 25°C 180° sine ②		2.5	A
I_{TSM}	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	300	A
	V_R = 0 V	t = 8.3 ms (60 Hz), sine	340	A
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	250	A
	V_R = 0 V	t = 8.3 ms (60 Hz), sine	285	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	450	A^2s
	V_R = 0 V	t = 8.3 ms (60 Hz), sine	480	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	300	A^2s
	V_R = 0 V	t = 8.3 ms (60 Hz), sine	337	A^2s
$(di/dt)_{cr}$	T_{VJ} = T_{VJM}	repetitive, I_T = 20 A	150	A/µs
	f = 50Hz, t_P = 200µs			
	V_D = $^2/_3$ V_{DRM}			
	I_G = 0.08 A	non repetitive, I_T = $I_{T(AV)M}$	500	A/µs
	di_G/dt = 0.08 A/µs			
$(dv/dt)_{cr}$	T_{VJ} = T_{VJM}, V_{DR} = $^2/_3$ V_{DRM}		1000	V/µs
	R_{GK} = ∞, method 1 (linear voltage rise)			
P_{GM}	T_{VJ} = T_{VJM}	t_P = 30 µs	10	W
	I_T = $I_{T(AV)M}$	t_P = 300 µs	5	W
P_{GAV}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40...+150	°C
T_{VJM}			150	°C
T_{stg}			-40...+125	°C
M_d	Mounting torque	M 3 or UNC 4-40	0.5-0.8	Nm
Weight			3	g

① mounted on heatsink
② without heatsink

Data according to IEC 60747

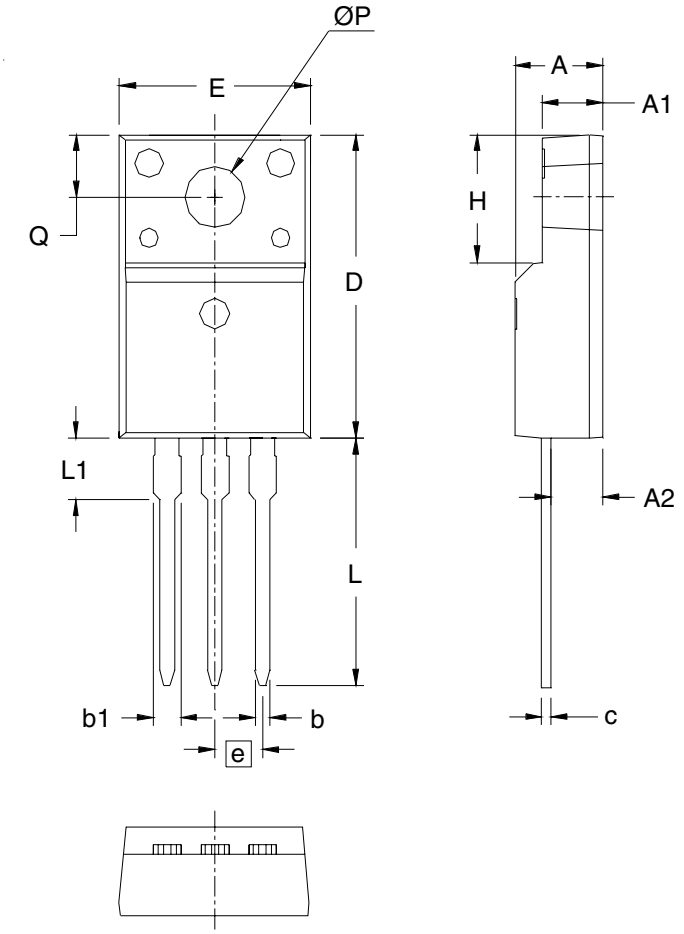
Features
- Thyristor for frequencies up to 400Hz
- International standard package
- Epoxy meets UL 94V-0
- High performance glass passivated chip
- Long-term stability of leakage current and blocking voltage
- Plasitc overmolded tab for electrical isolation

Applications
- Motor control
- Power converter
- AC power controller
- Light and temperature control
- SCR for inrush current limiting in power supplies or AC drive

Advantages
- Space and weight savings
- Simple mounting

Symbol	Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$, $V_R = V_{RRM}$, $V_D = V_{DRM}$		≤	5	mA
V_T	I_T = 30 A, T_{VJ} = 25°C		≤	1.5	V
V_{T0}	For power-loss calculations only (T_{VJ} = 150°C)			0.9	V
r_T				18	mΩ
V_{GT}	V_D = 6 V	T_{VJ} = 25°C	≤	1.5	V
		T_{VJ} = -40°C	≤	2.5	V
I_{GT}	V_D = 6 V	T_{VJ} = 25°C	≤	30	mA
		T_{VJ} = -40°C	≤	50	mA
V_{GD}	$T_{VJ} = T_{VJM}$, $V_D = {}^2/_3\ V_{DRM}$		≤	0.2	V
I_{GD}			≤	3	mA
I_L	T_{VJ} = 25°C, t_P = 10 µs I_G = 0.08 A, di_G/dt = 0.08 A/µs		≤	100	mA
I_H	T_{VJ} = 25°C, V_D = 6 V, R_{GK} = ∞		≤	80	mA
t_{gd}	T_{VJ} = 25°C, V_D = ½ V_{DRM} I_G = 0.08 A, di_G/dt = 0.08 A/µs		≤	2	µs
R_{thJC}	DC current			2.5	K/W
R_{thCH}	DC current			0.5	K/W
R_{thJA}	DC current			50	K/W
a	Max. acceleration, 50 Hz			50	m/s^2

Package Outline



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.177	.193	4.50	4.90
A1	.092	.108	2.34	2.74
A2	.101	.117	2.56	2.96
b	.028	.035	0.70	0.90
b1	.050	.058	1.27	1.47
c	.018	.024	0.45	0.60
D	.617	.633	15.67	16.07
E	.392	.408	9.96	10.36
e	.100 BSC		2.54 BSC	
H	.255	.271	6.48	6.88
L	.499	.523	12.68	13.28
L1	.119	.135	3.03	3.43
ØP	.121	.129	3.08	3.28
Q	.126	.134	3.20	3.40

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

432