

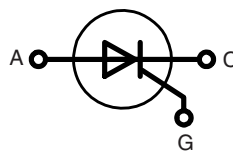
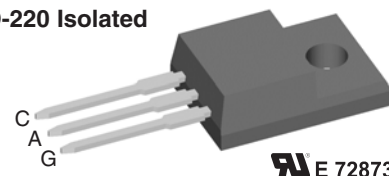
Phase Control Thyristors

Electrically Isolated Tab

$$V_{RRM} = 800-1200 \text{ V}$$

$$I_{T(AV)M} = 16 \text{ A}$$

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	
$I_{T(AV)M}$	$T_C = 85^{\circ}\text{C}$ 180° sine ^①		16	A
	$T_A = 25^{\circ}\text{C}$ 180° sine ^②		2.5	A
I_{TSM}	$T_{VJ} = 45^{\circ}\text{C}$ $V_R = 0\text{ V}$	t = 10 ms (50 Hz), sine	300	A
		t = 8.3 ms (60 Hz), sine	320	A
	$T_{VJ} = T_{VJM}$ $V_R = 0\text{ V}$	t = 10 ms (50 Hz), sine	260	A
		t = 8.3 ms (60 Hz), sine	280	A
I^2t	$T_{VJ} = 45^{\circ}\text{C}$ $V_R = 0\text{ V}$	t = 10 ms (50 Hz), sine	450	A ² s
		t = 8.3 ms (60 Hz), sine	430	A ² s
	$T_{VJ} = T_{VJM}$ $V_R = 0\text{ V}$	t = 10 ms (50 Hz), sine	340	A ² s
		t = 8.3 ms (60 Hz), sine	330	A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50Hz, t _p = 200μs	repetitive, I _T = 20 A	150	A/μs
	$V_D = \frac{2}{3} V_{DRM}$ I _G = 0.08 A di _G /dt = 0.08 A/μs	non repetitive, I _T = I _{T(AV)M}	500	A/μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$, $V_{DR} = \frac{2}{3} V_{DRM}$ R _{GK} = ∞, method 1 (linear voltage rise)		500	V/μs
P_{GM}	$T_{VJ} = T_{VJM}$ I _T = I _{T(AV)M}	t _p = 30 μs	10	W
		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
- Plastic overmolded tab for electrical isolation

Applications

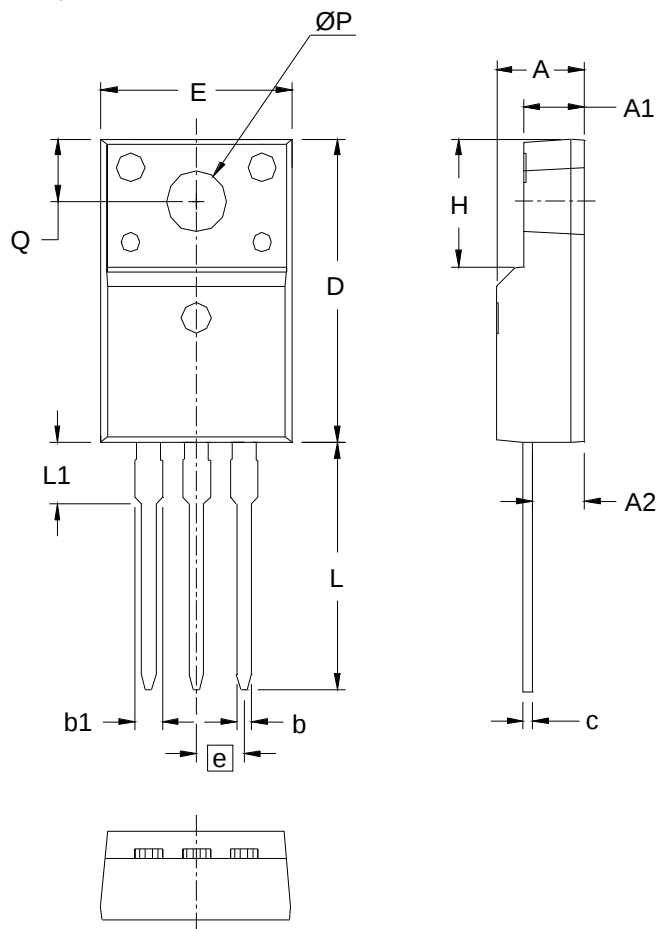
- Motor control
- Power converter
- AC power controller
- Light and temperature control
- SCR for inrush current limiting in power supplies or AC drive

Advantages

- Space and weight savings
- Simple mounting

Symbol	Conditions	Characteristic Values
I_R, I_D	$T_{VJ} = T_{VJM}, V_R = V_{RRM}, V_D = V_{DRM}$	≤ 4 mA
V_T	$I_T = 30$ A, $T_{VJ} = 25^\circ\text{C}$	≤ 1.4 V
V_{T0}	For power-loss calculations only ($T_{VJ} = 150^\circ\text{C}$)	0.9 V
r_T		18 m Ω
V_{GT}	$V_D = 6$ V, $T_{VJ} = 25^\circ\text{C}$	≤ 2.5 V
	$T_{VJ} = -40^\circ\text{C}$	≤ 3.5 V
I_{GT}	$V_D = 6$ V, $T_{VJ} = 25^\circ\text{C}$	≤ 30 mA
	$T_{VJ} = -40^\circ\text{C}$	≤ 50 mA
V_{GD}	$T_{VJ} = T_{VJM}, V_D = \frac{2}{3} V_{DRM}$	≤ 0.2 V
I_{GD}		≤ 1 mA
I_L	$T_{VJ} = 25^\circ\text{C}, t_p = 10$ μs $I_G = 0.08$ A, $di_G/dt = 0.08$ A/ μs	≤ 100 mA
I_H	$T_{VJ} = 25^\circ\text{C}, V_D = 6$ V, $R_{GK} = \infty$	≤ 80 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}, V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.08$ A, $di_G/dt = 0.08$ A/ μs	≤ 2 μs
R_{thJC}	DC current	2.5 K/W
R_{thCH}	DC current	typ. 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

Mouser Electronics

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