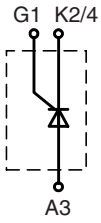
Single Thyristor Module

I_{TRMS} = 156 A
V_{RRM} = 1200-1600 V
I_{TAV} = 99 A

Preliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
1200	1200	MCO 100-12io1
1600	1600	MCO 100-16io1



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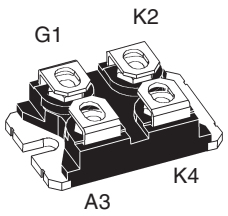

Symbol	Conditions		Maximum Ratings	
I_{TRMS}	$T_{VJ} = T_{VJM}$		156	A
I_{TAV}	T_C = 80°C; (180° sine)		99	A
I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	1400	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	1500	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	1200	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	1300	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	9800	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	9450	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	7200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	7100	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 Hz, t_P = 200 µs	repetitive, I_T = 150 A	150	A/µs
	$V_D = {}^2/_3 V_{DRM}$ I_G = 0.3 A di_G/dt = 0.3 A/µs	non repetitive, $I_T = I_{TAVM}$	500	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}	$T_{VJ} = T_{VJM}$	t_p = 30 µs	10	W
	$I_T = I_{TAVM}$	t_p = 300 µs	5	W
P_{GAVM}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40...+150	°C
T_{VJM}			150	°C
T_{stg}			-40...+150	°C
V_{ISOL}	50/60 Hz, RMS;	$I_{ISOL} \leq$ 1 mA	2500	V~
M_d	Mounting torque (M4)		1.1 - 1.5 / 9 - 13	Nm/lb.in.
	Terminal connection torque (M4)		1.1 - 1.5 / 9 - 13	Nm/lb.in.
Weight	typ.		30	g

Data according to IEC 60747 and to a single thyristor/diode unless otherwise stated.

Features

- International standard package miniBLOC (ISOTOP compatible)
- Isolation voltage 2500 V~
- Planar passivated chips

Applications

- Solid state switches
- motor control
- soft starter
- light and temperature control

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling
- High power density

IXYS reserves the right to change limits, Conditions and dimensions.

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Symbol	Conditions		Characteristic Values		
$I_{RRM / DRM}$	T_{VJ} = 125°C; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	10	mA
V_T	I_T = 100; T_{VJ} = 25°C		≤	1.35	V
V_{T0}	For power-loss calculations only			0.85	V
r_T				4.5	mΩ
V_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	1.5	V
		T_{VJ} = -40°C	≤	1.6	V
I_{GT}	V_D = 6 V;	T_{VJ} = 25°C	≤	100	mA
		T_{VJ} = -40°C	≤	150	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	$V_D = {}^2/_3\ V_{DRM}$	≤	0.2	V
I_{GD}			≤	5	mA
I_L	T_{VJ} = 25°C; t_P = 10 µs I_G = 0.3 A; di_G/dt = 0.3 A/µs		≤	450	mA
I_H	T_{VJ} = 25°C; V_D = 6 V; $R_{GK} = \infty$		≤	200	mA
t_{gd}	T_{VJ} = 25°C; V_D = ½ V_{DRM} I_G = 0.3 A; di_G/dt = 0.3 A/µs		≤	2	µs
t_q	$T_{VJ} = T_{VJM}$; I_T = 11 A, t_P = 200 µs; di/dt = -10 A/µs V_R = 100 V; dv/dt = 15 V/µs; $V_D = {}^2/_3\ V_{DRM}$		typ.	150	µs
R_{thJC}	DC current			0.35	K/W
R_{thCH}	DC current		typ.	0.15	K/W
d_S	Creeping distance on surface			8	mm
d_A	Creepage distance in air			4	mm
a	Max. allowable acceleration			50	m/s^2

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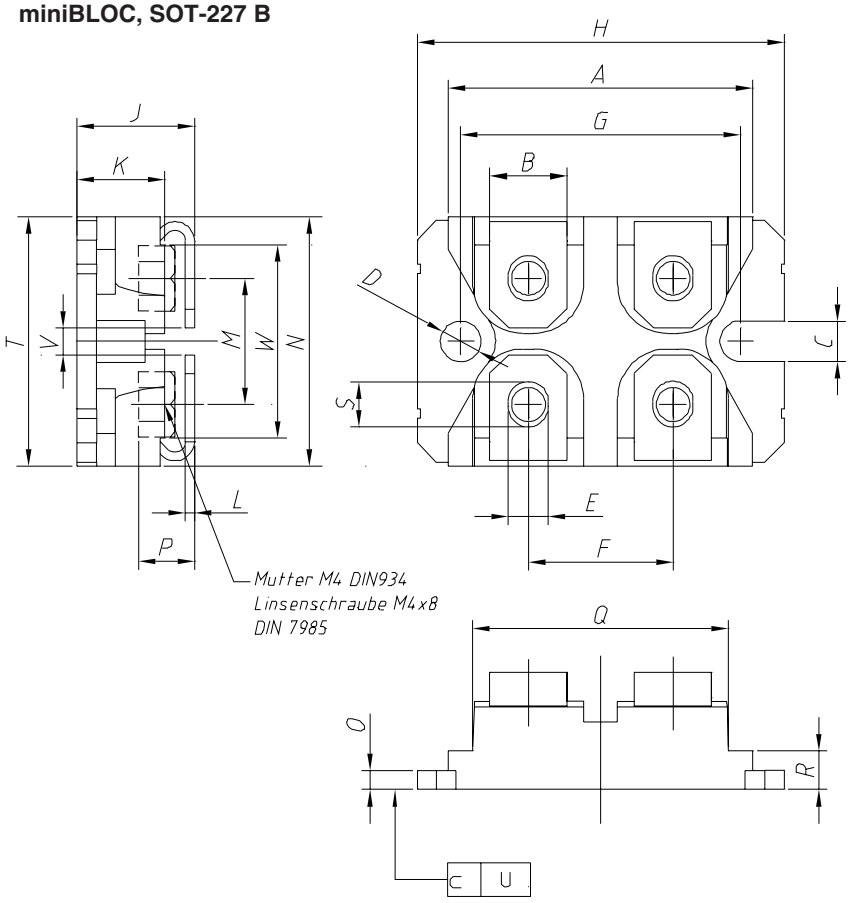

M4 screws (4x) supplied

Dim.	Millimeter Min.	Millimeter Max.	Inches Min.	Inches Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	19.81	21.08

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