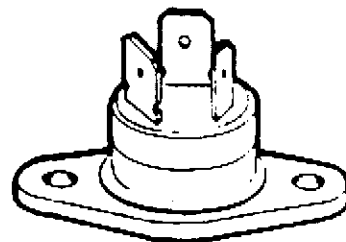


A triac is a solid-state silicon AC switch which may be gate triggered from an Off-State to an On-State for either polarity of applied voltage.

Econopower™ triacs are rugged devices particularly suitable for use on industrial and appliance assembly lines. An electrically insulated TO-3 mounting flange may be either screw or rivet-mounted to the heat dissipator and electrical connections may be made mechanically through the use of standard 1/4" and 3/16" mating fast-on terminals. The encapsulated silicon chip is glass-passivated by a patented process which provides an intimate bond between the critical silicon surfaces and the glass coating. This provides superior device performance and reliability.



FEATURES:

- Rugged package featuring electrically isolated TO-3 mounting flange and fast-on terminals.
- Very low Off-State (leakage) current at room and elevated temperatures.
- Inherent immunity from non-repetitive transient voltage damage (maximum critical rate-of-rise of On-State current subsequent to breakover voltage triggering, $di/dt = 10A/\mu\text{sec.}$).
- Low On-State voltage at high current levels.
- Excellent surge current capability.
- 1600 volts RMS Surge Isolation Voltage.
- Selected types available from factory for use in circuits requiring operation:
 - with popular zero voltage triggering IC's;
 - at 400 Hz;
 - with low gate trigger current;
 - at higher voltage levels;
 - at higher commutating dv/dt levels.

MAXIMUM ALLOWABLE RATINGS

TYPE	RMS ON-STATE CURRENT $I_{T(RMS)}$ ¹	REPETITIVE PEAK OFF-STATE VOLTAGE, V_{DRM} ²				PEAK ONE FULL CYCLE SURGE (NON-REP) ON-STATE CURRENT, I_{TSM} AMPERES		I ³ t FOR FUSING FOR TIMES AT: ⁵	
		B	D	E	M	50 Hz	60 Hz	(RMS AMPERE) ¹ SECONDS, 1.0 MILLISECONDS	(RMS AMPERE) ¹ SECONDS, 8.3 MILLISECONDS
		VOLTS	VOLTS	VOLTS	VOLTS	AMPERES	AMPERES		
SC160	25	200	400	500	600	230	250	150	260

Peak Gate Power Dissipation, P_{GM} ⁴	10 Watts for 10 Microseconds (See Figure 4)
Average Gate Power Dissipation, $P_{G(AV)}$	0.5 Watts
Peak Gate Current, I_{GM} ⁴	(See Figure 4)
Peak Gate Voltage, V_{GM} ⁴	(See Figure 4)
Storage Temperature, T_{STG}	-40°C to +125°C
Operating Temperature, T_J	-40°C to +115°C
Surge Isolation Voltage ⁵	1600 Volts RMS

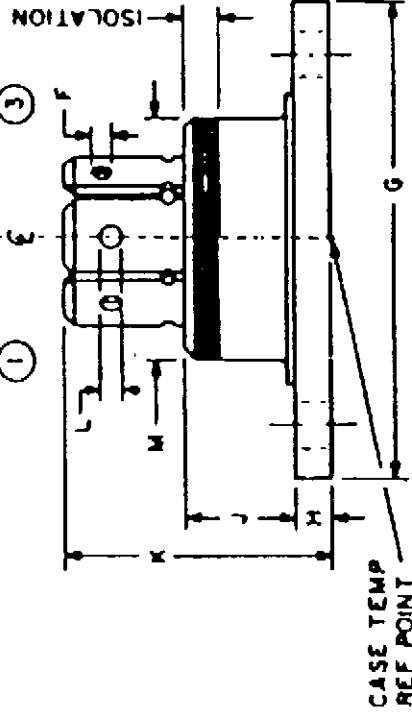
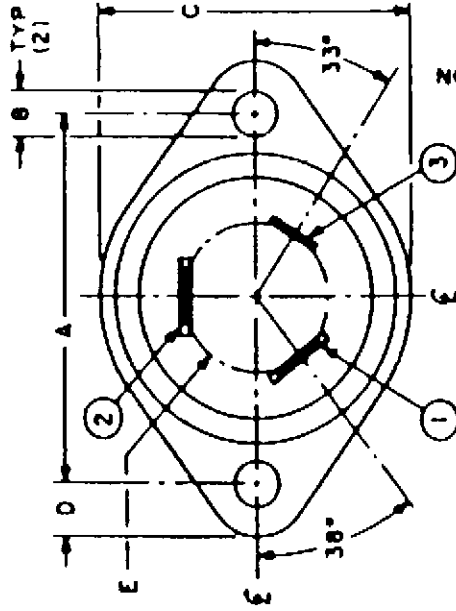
NOTES:

1. At case temperature reference point temperature of 65°C maximum and 360° conduction.
2. Ratings apply for zero gate voltage only. Ratings apply for either polarity of main terminal 2 voltage referenced to main terminal 1.
3. Ratings apply for either polarity of main terminal 3 voltage referenced to main terminal 1.
4. Ratings apply for either polarity of gate terminal referenced to main terminal 1.
5. Rating applies from main terminal 1 and 2 and gate terminal to device mounting surface. Test voltage is 50 Hz or 60 Hz sinusoidal wave form applied for one minute. Rating applies over the entire device operating temperature range.

CHARACTERISTICS

TEST	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS		
Repetitive Peak Off-State Current	I _{DRM}				mA	V _{DRM} = Maximum Allowable Repetitive Peak Off-State Voltage Rating. Gate Open Circuited.		
		-	-	0.1		T _C = +25°C		
		-	-	1.0		T _C = +115°C		
Peak On-State Voltage	V _{TM}	-	-	1.58	Volts	T _C = +25°C. I _{TM} = 1 msec. wide pulse. Duty Cycle ≤ 2%. I _{TM} = 35 Amps Peak		
Critical Rate-of-Rise of Off-State Voltage. (Higher values may cause device switching.)	dv/dt	50	150	-	Volts/μsec	T _C = +115°C. rated V _{DRM} . Gate Open Circuited. Exponential Voltage Waveform		
Critical Rate-of-Rise of Commutating Off-State Voltage (Commutating dv/dt)	dv/dt _(c)	5	-	-	Volts/μsec	I _{T(RMS)} = Rated Maximum Allowable RMS On-State Current. V _{DRM} = Maximum Rated Peak Off-State Voltage. Gate Open Circuited. T _C = 65°C. Commutating di/dt = 13.5 A/μs		
DC Gate Trigger Current	I _{GT}				mA _{dc}	V _D = 12 Vdc		
						TRIGGER MODE	R _L	T _C
		-	-	50		MT2+ Gate+	100 Ohms	+25°C
		-	-	50		MT2- Gate-	100 Ohms	
		-	-	50		MT2+ Gate-	50 Ohms	
		-	-	80		MT2+ Gate+	50 Ohms	-40°C
		-	-	80		MT2- Gate-	50 Ohms	
		-	-	80		MT2+ Gate-	25 Ohms	
DC Gate Trigger Voltage	V _{GT}				Vdc	V _D = 12 Vdc		
						TRIGGER MODE	R _L	T _C
		-	-	2.5		MT2+ Gate+	100 Ohms	+25°C
		-	-	2.5		MT2- Gate-	100 Ohms	
		-	-	2.5		MT2+ Gate-	50 Ohms	
		-	-	3.5		MT2+ Gate+	50 Ohms	-40°C
		-	-	3.5		MT2- Gate-	50 Ohms	
		-	-	3.5		MT2+ Gate-	25 Ohms	
DC Gate Non-Trigger Voltage	V _{GD}	0.2	-	-	Vdc	T _C = +115°C. R _L = 1000 Ohms. All Gate Trigger Modes.		
DC Holding Current	I _H				mA _{dc}	Main Terminal Source Voltage = 24 Vdc. Peak Initiating On-State Current = 0.5 amp 0.1 milliseconds to 10 milliseconds wide pulse. Gate Trigger Source = 7 volts. 20ohm		
		-	-	75		T _C = +25°C		
		-	-	150		T _C = -40°C		
DC Latching Current	I _L				mA _{dc}	Main Terminal Source Voltage = 24 Vdc. Gate trigger source = 15 volts, 100 ohms, 50 μsec. pulse width, 5 μsec. rise and fall times maximum.		
						TRIGGER MODE	T _C	
		-	-	100		MT2+ Gate+	+25°C	
		-	-	100		MT2- Gate-		
		-	-	200		MT2+ Gate-		
		-	-	200		MT2+ Gate+	-40°C	
		-	-	200		MT2- Gate-		
		-	-	400		MT2+ Gate-		

OUTLINE DRAWING



TERMINAL SPECIFICATIONS			
TERMINAL	ACCEPTS FAST ON CONNECTOR	WIDTH	THK.
1 & 2	250 SER.	N	P
3	187 SER.	Q	R

SYM.	INCHES		METRIC (MM)		NOTE
	MIN.	MAX.	MIN.	MAX.	
A	1.182	1.192	30.02	39.80	
B	.150	.161	3.81	4.09	
C	.975	1.025	24.76	26.04	
D	175 REF		4.46 REF		
E	.480	.500	12.19	12.70	1
F	.050 REF		1.27 REF		
G	1.507	1.547	38.27	39.80	
H	.119	.131	3.02	3.33	
J	-	.400	-	10.16	
K	.900	.960	22.86	24.26	
L	.070 REF		1.77 REF		
M	.776	.810	19.76	20.57	
N	.247	.253	6.27	6.43	
P	.031	.033	.78	.84	
Q	.164	.190	4.67	4.83	
R	.019	.021	.48	.53	

NOTES:

1. Terminal centers are located on "E" dia.