



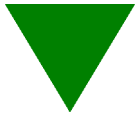
# HUTSON INDUSTRIES, INC.

## TO-239 SCR

MAXIMUM RATINGS	SYMBOL	VDRM	DEVICE NUMBERS		UNITS
Repetitive Peak Off-State Voltage Repetitive Peak Reverse Voltage Gate Open, and T <sub>J</sub> = 110° C	VDRM	50 100 200 400 600	H3SF35 H3SA35 H3SB35 H3SD35 H3SM35	H3SF55 H3SA55 H3SB55 H3SD55 H3SM55	VOLT
RMS On-State Current at T <sub>C</sub> = 80 ° C and Conduction Angle of 180°	I <sub>t</sub> (RMS)		35.0	55.0	AMP
Peak Surge (Non-Repetitive) On-State Current, One-Cycle, at 50Hz or 60 Hz	ITSM		350	550	AMP
Peak Gate-Trigger Current for 3μsec. Max.	IGTM		2	2	AMP
Peak Gate-Power Dissipation at IGT ≤ IGTM	PGM		20	20	WATT
Average Gate-Power Dissipation	PG(AV)		0.5	0.5	WATT
Storage Temperature Range	T <sub>stg</sub>		-40 to +150		°C
Operating Temperature Range, T <sub>j</sub>	T <sub>oper</sub>		-40 to +110		°C
<b>ELECTRICAL CHARACTERISTICS</b>					
<b>At Specified Case Temperatures</b>					
Peak Off-State Current, Gate Open T <sub>C</sub> = 110° C VDRM & VRRM = Max. Rating	IDRM & IRRM		1.0	2	mA MAX.
Maximum On-State Voltage, (PEAK) at T <sub>C</sub> =25°C and I <sub>T</sub> = Rated Amps	V <sub>TM</sub>		1.5	1.6	VOLT MAX
DC Holding Current, Gate Open and T <sub>C</sub> = 25°C	I <sub>HO</sub>		80	80	mA MAX.
Critical Rate-Of-Rise of Off-State Voltage, Gate Open, T <sub>C</sub> = 110°C	Critical dv/dt		200	200	V/μsec.
DC Gate-Trigger Voltage for V <sub>D</sub> = 12VDC, R <sub>L</sub> = 60 OHM and at T <sub>C</sub> = 25°C	IGT		80	80	V/μsec.
DC Gate - Trigger Voltage for Anode Voltage = 12VDC, R <sub>L</sub> = 60Ω and at T <sub>C</sub> =25° C	V <sub>GT</sub>		2.0	2.0	mA MAX.
Gate Controlled Turn-On Time for T <sub>D</sub> + T <sub>R</sub> IGT = 150mA and T <sub>C</sub> = 25° C	T <sub>gt</sub>		2.5	2.5	VOLT MAX
Thermal Resistance, Junction-to-Case	R <sub>θJ-C</sub>		1.3	0.9	°C/WATT TYP

Note:

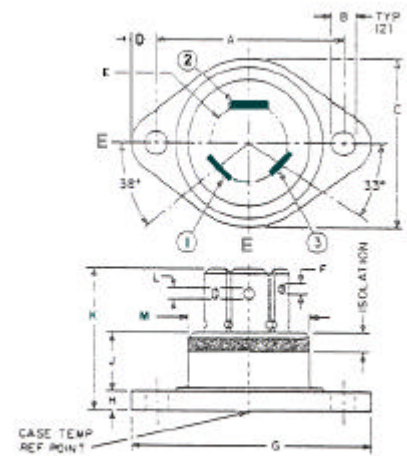
- (1) All Hutson Isolated TO-239 SCR's are UL Recognized. UL number E95589(N).



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TERMINAL DESIGNATION				
PRODUCT	TERMINAL 1	TERMINAL2	TERMINAL3	
SCR	CATHODE	ANODE	GATE	
TERMINAL SPECIFICATIONS				
TERMINAL	ACCEPTS FAST-ON CONNECTOR	WIDTH	THICKNESS	
1 & 2	0.250 SER.	N	P	
3	0.187 SER.	Q	R	
SYM.	INCHES		METRIC (MM)	
A	1.182	1.192	30.02	39.8
B	0.150	0.161	3.81	4.09
C	0.975	1.025	24.76	26.04
D	0.175 REF.		4.46 REF.	
E*	0.480	0.5	12.19	12.7
F	0.050 REF.		1.27 REF.	
G	1.507	1.567	38.27	39.8
H	0.119	0.131	3.02	3.33
J	-	0.4	-	10.16
K	0.900	0.96	22.86	24.36
L	0.070 REF.		1.77 REF.	
M	0.778	0.81	19.76	20.57
N	0.247	2.53	6.27	6.43
P	0.031	0.033	0.78	0.84
Q	0.184	0.19	4.67	4.83
R	0.031	0.033	0.78	0.84



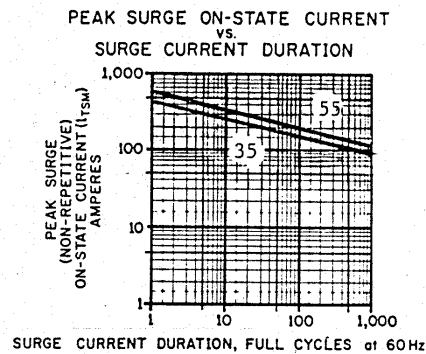
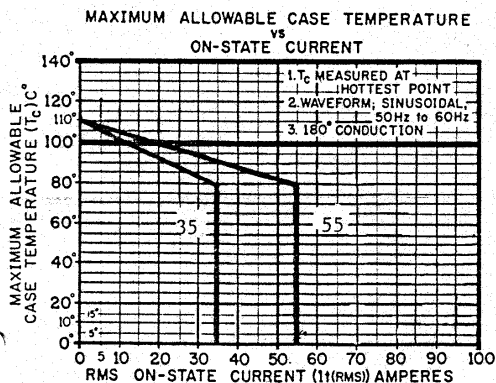
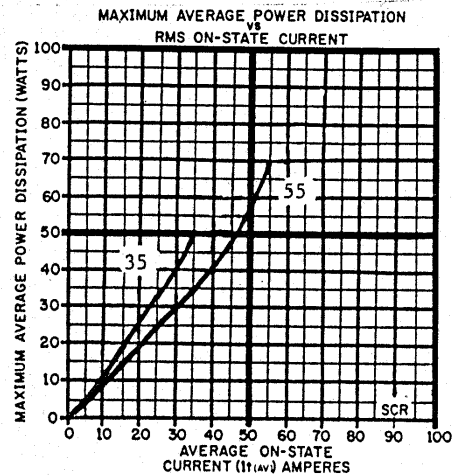
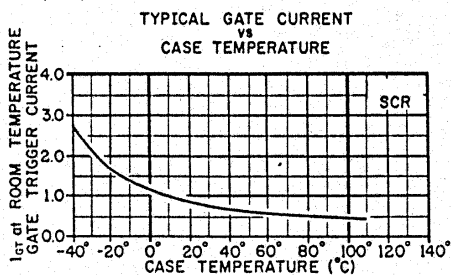
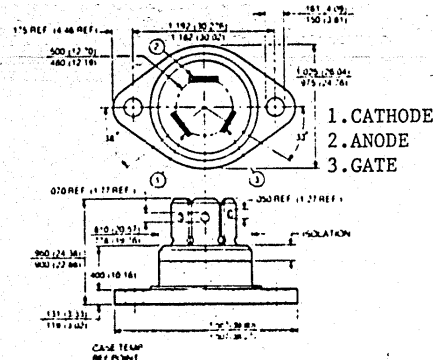
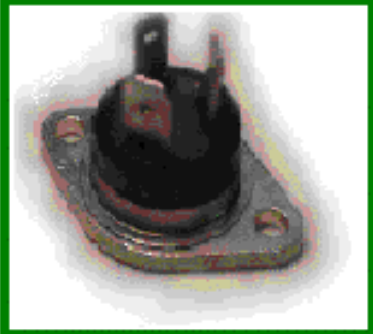
NOTES:

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

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## TO-239 SCR

**35, 55 AMP  
TO-239 SCR**



CURRENT WAVEFORM:  
SINUSOIDAL, 60Hz  
RESISTIVE LOAD  
 $I_{t(RMS)} = \text{RATED AMPS at } 80^{\circ}\text{C}$   
GATE CONTROL MAY BE LOST DURING AND AFTER SURGE.  
GATE CONTROL WILL BE REGAINED AFTER  $T_J$  RETURNS TO STEADY-STATE VALUE.