

# SCR Thyristor



## Absolute Maximum Ratings:

Peak Repetitive Off State Blocking Voltage, $V_{RRM}$ or $V_{DRM}$	600V
Peak Non Repetitive Reverse Voltage, $V_{RSM}$ or $V_{DSM}$	720V
RMS On State Current, $I_{T(RMS)}$	25A
Average On State Current, ( $T_C = (-40^{\circ}\text{C to } 65^{\circ}\text{C})$ ), $I_{T(AV)}$	16A
Peak Non Repetitive Surge Current, $I_{TSM}$	150A
(One cycle 60Hz preceded and followed by rated current and voltage)	
Circuit Fusing Considerations	93 A2s
( $T_J = -40^{\circ}\text{C to } 125^{\circ}\text{C}$ , $t = 1\text{ms to } 8.3\text{ms}$ )	
Peak Gate Power $P_{GM}$	5W
Average Gate Power, $P_{G(AV)}$	0.5W
Peak Forward Gate Current $I_{GM}$	1.2A
Peak Gate Voltage Forward $V_{FGM}$ Reverse $V_{RGM}$	10V 5V
Stud Torque	30in/lb
Operating Junction Temperature Range, $T_J$	$-65^{\circ}\text{C to } +125^{\circ}\text{C}$
Storage Temperature Range, $T_{STG}$	$-65^{\circ}\text{C to } +150^{\circ}\text{C}$

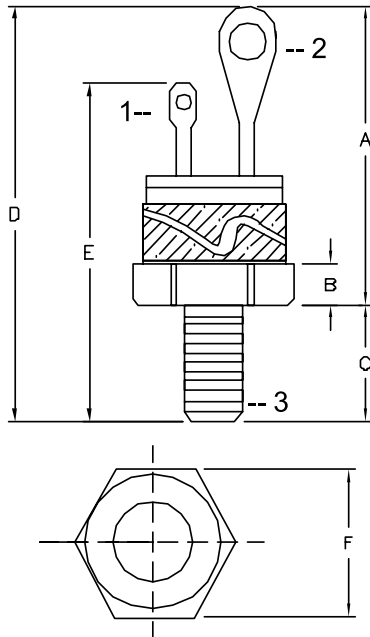
## Electrical Characteristics: ( $T_C = +25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.
Peak Forward or Reverse Blocking Current	$I_{DAV}$ , $I_{RAV}$	$V_D = 600\text{V}$ , gate open, $T_J = +125^{\circ}\text{C}$	-	-	2.5
Peak Forward or Reverse Blocking Current	$I_{DRM}$ , $I_{RRM}$	$V_D = 600\text{V}$ , gate open, $T_J = +25^{\circ}\text{C}$ $T_J = +125^{\circ}\text{C}$	-	-	10 20
Peak On State Voltage	$V_{TM}$	$I_{TM} = 50.3\text{A}$ Peak Pulse Width $\leq 300\mu\text{s}$ , Duty Cycle $\leq 2\%$	-	-	2
Gate Trigger Current (Continuous dc)	$I_{GT}$	$V_{AK} = 12\text{V}$ , $R_L = 50\Omega$ $T_C = -65^{\circ}\text{C}$	-	-	80
		$V_{AK} = 12\text{V}$ , $R_L = 50\Omega$ $T_C = +25^{\circ}\text{C}$	-	-	40
Gate Trigger Voltage (Continuous dc)	$V_{GT}$	$V_{AK} = 12\text{V}$ , $R_L = 50\Omega$ $T_C = -65^{\circ}\text{C}$	-	-	3
		$V_{AK} = 12\text{V}$ , $R_L = 50\Omega$ $T_C = +25^{\circ}\text{C}$	-	0.65	2
Holding Current (Gate Open)	$I_H$	$V_{AK} = 12\text{V}$ , $T_C = +25^{\circ}\text{C}$	-	7.3	50
Gate Controlled Turn On Time	$V_{GD}$	$V_D = 600\text{V}$ $R_L = 50\Omega$ $T_J = +125^{\circ}\text{C}$	0.25	30	-
Critical Rate of Rise of Off State Voltage	$dv/dt$	$V_D = 600\text{V}$ , Exponential Waveform, $T_C = +125^{\circ}\text{C}$	-	-	-

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## Dimensions



Symbol	Inches	
A	1.15	
B	0.114	0.11
C	0.453	0.422
D	1.603	1.572
E	1.243	1.132
F	0.562	0.544

## Part Number Table

Description	Part Number
SCR Thyristor	2N690

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