DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

2N4212-2N4216, 2N4219

1.6A SILICON CONTROLLED RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak repetitive forward and reverse blocking voltage (1) 2N4212 2N4213 2N4214 2N4215 2N4216 2N4219	V_{DRM} or V_{RRM}	 25 50 100 150 200 400	Volts
Forward current RMS (All conduction angles)	$I_{T(RMS)}$	1.6	Amps
Peak surge current (One cycle, 60Hz) No repetition until thermal equilibrium is restored	I_{TSM}	15	Amps
Forward peak gate power	P_{GFM}	0.1	Watt
Forward average gate power	$P_{GF(AV)}$	0.01	Watt
Forward peak gate current	I_{GFM}	0.1	Amp
Forward peak gate voltage	V_{GFM}	6	Volts
Reverse peak gate voltage	V_{GRM}	6	Volts
Operating junction temperature range	T_J	-65 to 125	°C
Storage temperature range	T_{stg}	-65 to 150	°C
Lead solder temperature (> 1/16" from case, 10 s max.)	-	230	°C

Note 1: V_{DRM} and V_{RRM} can be applied for all types on a continuous dc basis without incurring damage.

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted, R_{GK} = 1000 ohms)(1)

Characteristic		Symbol	Min	Max	Unit
Peak forward or reverse blocking current (Rated V_{DRM} or V_{RRM}, gate open)	T_J = 25°C T_J = 125°C	I_{DRM}, I_{RRM}	- -	10 200	µA
Forward "on" voltage (I_{TM} = 1Adc peak)		V_{TM}	-	1.5	Volts
Gate trigger current (continuous dc)(2) (V_D = 7V, R_L = 100ohms)	T_C = 25°C T_C = -65°C	I_{GT}	- -	100 300	µAdc
Gate trigger voltage (continuous dc) (V_D = 7V, R_L = 100ohms, T_C = 25°C) (V_D = 7V, R_L = 100ohms, T_C = -65°C) (V_D = rated V_{DRM}, R_L = 100ohms, T_J = 125°C)		V_{GT}	 - - 0.1	 0.8 1 -	Volts
Holding current (V_D = 7V)	T_C = 25°C T_C = -65°C	I_{HX}	- -	3 7	mA

Note 1: Thyristor devices shall not be tested with a constant current source for forward or reverse blocking capability such that the voltage applied exceeds the rated blocking voltage. Thyristor devices shall not have a positive bias applied to the gate concurrently with a negative potential applied to the anode.
Note 2: R_{GK} current is not included in the measurement.

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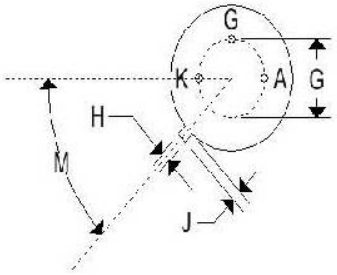
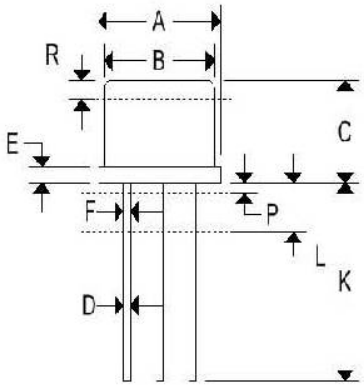
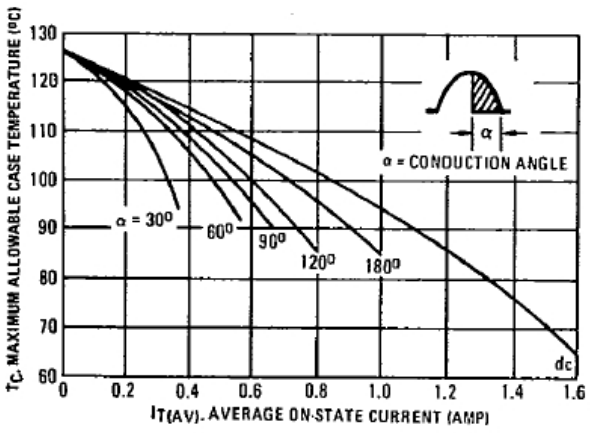
MECHANICAL CHARACTERISTICS

Case	TO-39
Marking	Alpha-numeric
Pin out	See below

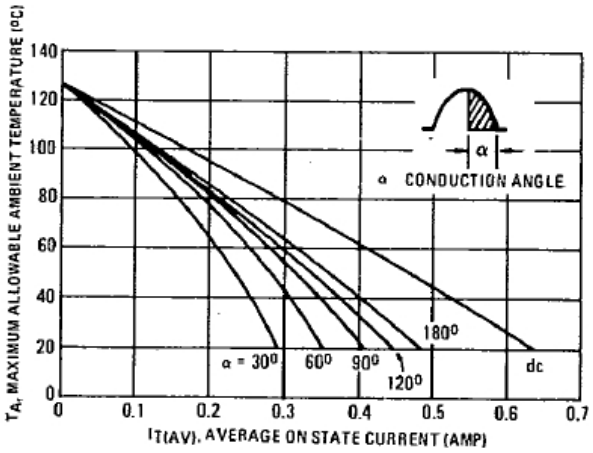




	TO-39			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.335	0.370	8.510	9.390
B	0.305	0.335	7.750	8.500
C	0.240	0.260	6.100	6.600
D	0.016	0.021	0.410	0.530
E	0.009	0.041	0.230	1.040
F	0.016	0.019	0.410	0.480
G	0.200 BSC		5.080 BSC	
H	0.028	0.034	0.720	0.860
J	0.029	0.045	0.740	1.140
K	0.500	0.750	12.700	19.050
L	0.250	-	6.350	-
M	45°C BSC		45°C BSC	
P	-	0.050	-	1.270
R	0.100	-	2.540	-



CASE TEMPERATURE VS. CURRENT



AMBIENT TEMPERATURE VS. CURRENT