

DIGITRON SEMICONDUCTORS

C35 SERIES

SILICON CONTROLLED RECTIFIERS

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak repetitive forward and reverse blocking voltage⁽¹⁾ (T _C = -65 to +125°C)	V _{DRM} or V _{RRM}	25 50 100 150 200 250 300 400 500 600 700 800	Volts
C35U			
C35F			
C35A			
C35G			
C35B			
C35H			
C35C			
C35D			
C35E			
C35M			
C35S			
C35N			
Non-repetitive peak reverse voltage (T _C = -65 to +125°C, V < 5.0ms)			
C35U			
C35F			
C35A			
C35G			
C35B			
C35H			
C35C			
C35D			
C35E			
C35M			
C35S			
C35N			
Forward current RMS (all conduction angles)	I _{T(RMS)}	35	Amps
Peak non-repetitive surge current (1cycle, 60 Hz)	I _{TSM}	225	Amps
Circuit fusing considerations (t = 8.3ms)	I ² t	75	A ² s
Forward peak gate power	P _{GM}	5	Watts
Forward average gate power	P _{G(AV)}	0.5	Watts
Peak reverse gate voltage	V _{GRM}	5	Volts
Operating junction temperature range	T _J	-65 to +125	°C
Storage temperature range	T _{stg}	-65 to +150	°C

Note 1: V_{DRM} and V_{RRM} for all types can be applied on a continuous dc basis without incurring damage. Ratings apply for zero or negative gate voltage. Devices should not be tested for blocking capability in a manner such that the voltage supplied exceeds the rated blocking voltage.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Maximum	Unit
Thermal resistance, junction to case	R _{θJC}	1.7	°C/W

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ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

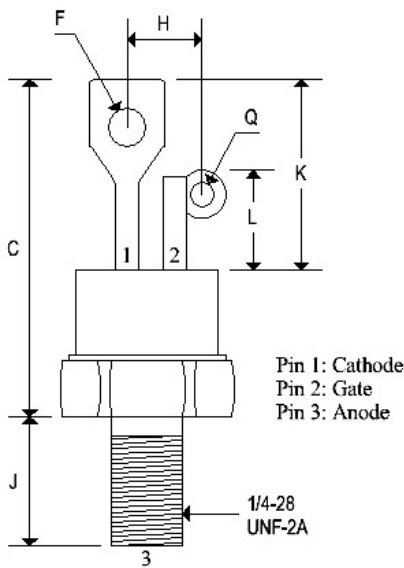
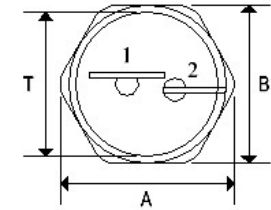
Characteristic	Symbol	Min	Typ.	Max	Unit
Peak reverse or forward blocking current ($V_D = \text{Rated } V_{DRM}, T_C = 125^\circ\text{C}$) ($V_R = \text{Rated } V_{RRM}, T_C = 125^\circ\text{C}$) C35U, F, A, G C35B C35H C35C C35D C35E C35M C35S C35N	I_{DRM} or I_{RRM}	-	-	13 12 11 10 8 6 5 4.5 4	mA
Average forward or reverse blocking current ($V_D = \text{Rated } V_{DRM}, T_C = 125^\circ\text{C}$) ($V_R = \text{Rated } V_{RRM}, T_C = 125^\circ\text{C}$) C35U, F, A, G C35B C35H C35C C35D C35E C35M C35S C35N	$I_{DRM(AV)}$ or $I_{RRM(AV)}$	-	-	6.5 6 5.5 5 4 3 2.5 2.25 2	mA
Peak on-state voltage ($I_{TM} = 50.3\text{A}$ peak, pulse width $\leq 1\text{ms}$, duty cycle $\leq 2.0\%$)	V_{TM}	-	-	2	Volts
Gate trigger current (continuous dc) ($V_D = 12\text{V}, R_L = 50\Omega$) ($V_D = 12\text{V}, R_L = 50\Omega, T_C = -65^\circ\text{C}$)	I_{GT}	-	6 -	40 80	mA
Gate trigger voltage (continuous dc) ($V_D = 12\text{V}, R_L = 50\Omega, T_C = -65^\circ\text{C}$ to $+125^\circ\text{C}$) ($V_D = \text{Rated } V_{DRM}, R_L = 1000\Omega, T_C = 125^\circ\text{C}$)	V_{GT}	-	-	3 -	Volts
Holding current ($V_D = 24\text{V}$, gate supply = $10\text{V}, 20\Omega, 45\mu\text{s}$ minimum pulse width, $I_T = 0.5\text{A}$)	I_H	-	-	100	mA
Critical rate of rise of forward blocking voltage ($V_D = \text{Rated } V_{DRM}, T_C = 125^\circ\text{C}$) C35U, F, M, S, N C35A, G, B, H C35C, D, E	dv/dt	10 20 25	-	-	V/ μs

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MECHANICAL CHARACTERISTICS

Case	TO-48
Marking	Alpha-numeric
Polarity	Cathode is stud



	TO-48			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.604	0.614	15.340	15.600
B	0.551	0.559	14.000	14.200
C	1.050	1.190	2.670	30.230
F	0.135	0.160	3.430	4.060
H	-	0.265	-	6.730
J	0.420	0.455	10.670	11.560
K	0.620	0.670	15.750	17.020
L	0.300	0.350	7.620	8.890
Q	0.055	0.085	1.400	2.160
T	0.501	0.505	12.730	12.830

