

DIGITRON SEMICONDUCTORS

2N2322(A)-2N2328(A), 2N2329

SILICON CONTROLLED RECTIFIERS

1.6 AMP, PLANAR

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

Ratings	Symbol	2N2322 2N2322A	2N2323 2N2323A	2N2324 2N2324A	2N2325 2N2325A	2N2326 2N2326A	2N2327 2N2327A	2N2328 2N2328A	2N2329	Units
Peak repetitive forward voltage	V_{DRM}	25	50	100	150	200	250	300	400	V
Peak repetitive reverse voltage	V_{RRM}	25	50	100	150	200	250	300	400	V
Non-repetitive peak reverse voltage	V_{RSM}	40	75	150	225	300	350	400	500	V
DC on-state current 80°C ambient 85°C case	$I_{T(AV)}$	300 1.6								mA A
One cycle surge on-state current	I_{TSM}	15								A
Repetitive peak on-state current	I_{TM}	30								A
Gate power dissipation	P_{GM}	0.1								W
Gate power dissipation	$P_{GM(AV)}$	0.01								W
Peak gate current	I_{GM}	100								mA
Reverse gate voltage	V_{GR}	6								V
Reverse gate current	I_{GR}	3								mA
Operating temperature	T_{op}	-65 to +125								°C
Storage junction temperature	T_{stg}	-65 to +150								°C

ELECTRICAL CHARACTERISTICS @ 25°C

Characteristics	Symbol	Min	Typ	Max	Unit	Test Condition
Off-state current	I_{DRM}	-	0.1	10	μA	V_{DRM} = rating, R_{GK} = 1K (2K for "A" types)
Reverse current	I_{RRM}	-	0.1	10	μA	V_{RRM} = rating, R_{GK} = 1K (2K for "A" types)
Gate trigger current "A" types Non "A" types	I_{GT}	- -	2 50	20 200	μA	V_D = 6V, R_L = 100Ω
Gate trigger voltage "A" types Non "A" types	V_{GT}	0.35 0.35	0.52 0.55	0.60 0.80	V	V_D = 6V, R_{GK} = 2K, R_L = 100Ω V_D = 6V, R_{GK} = 1K, R_L = 100Ω
On-state voltage	V_{TM}	-	2.0	2.2	V	I_{TM} = 4A (pulse test)
Holding current	I_H	-	0.3	2.0	mA	V_D = 6V, R_{GK} = 1K (2K for "A" types)
Reverse gate current	I_{GR}	-	1	200	μA	V_{GR} = 6V
Delay time	t_d	-	0.6	-	μs	I_G = 10mA, I_T = 1A, V_D = 30V
Rise time	t_r	-	0.4	-	μs	I_G = 10mA, I_T = 1A, V_D = 30V
Circuit commutated turn off time	t_q	-	20	-	μs	I_T = 1A, I_R = 1A, R_{GK} = 1K

ELECTRICAL CHARACTERISTICS @ 125°C

Characteristics	Symbol	Min	Typ	Max	Unit	Test Condition
Off-state current	I_{DRM}	-	1	100	μA	V_{DRM} = rating, R_{GK} = 1K (2K for "A" types)
Reverse current	I_{RRM}	-	1	100	μA	V_{RRM} = rating, R_{GK} = 1K (2K for "A" types)
Gate trigger voltage	V_{GT}	0.1	0.3	-	V	V_D = rated V_D , R_{GK} = 1K (2K for "A" types)
Holding current "A" types Non "A" types	I_H	0.1 0.15	- -	- -	mA	V_D = 6V, R_{GK} = 2K V_D = 6V, R_{GK} = 1K
Off-state voltage – critical rate of rise "A" types Non "A" types	dv/dt	0.7 1.8	- -	- -	V/μs	V_{DRM} = rating, R_{GK} = 2K V_{DRM} = rating, R_{GK} = 1K

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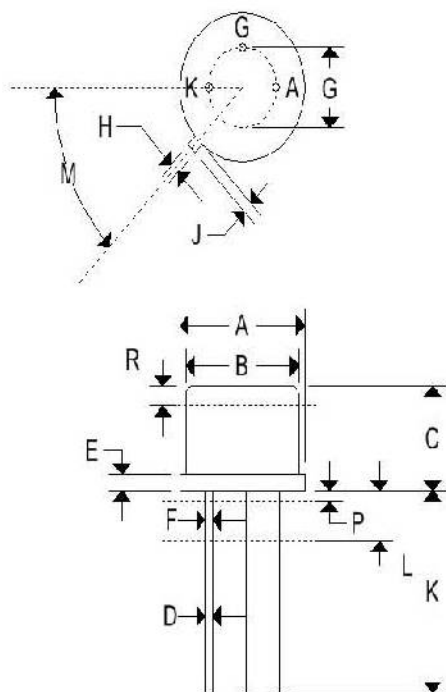
1.6 AMP, PLANAR

ELECTRICAL CHARACTERISTICS @ -65°C

Characteristics	Symbol	Min	Typ	Max	Unit	Test Condition
Off-state current	I_{DRM}	-	0.05	5.0	μA	$V_{DRM} = \text{rating}, R_{GK} = 1K (2K \text{ for "A" types})$
Reverse current	I_{RRM}	-	0.05	5.0	μA	$V_{RRM} = \text{rating}, R_{GK} = 1K (2K \text{ for "A" types})$
Gate trigger current "A" types Non "A" types	I_{GT}	- -	50 100	75 350	μA	$V_D = 6V, R_L = 100\Omega$
Gate trigger voltage "A" types Non "A" types	V_{GT}	- - -	0.7 - 0.75	0.8 0.9 1.0	V	$V_D = 6V, R_{GK} = 2K, R_L = 100\Omega$ $V_D = 6V, R_{GK} = 2K, R_L = 100\Omega$ $V_D = 6V, R_{GK} = 1K, R_L = 100\Omega$
Holding current	I_H	-	-	3.0	mA	$V_D = 6V, R_{GK} = 1K (2K \text{ for "A" types})$

MECHANICAL SPECIFICATIONS

Case:	Metal Can TO-39
Marking:	Alpha Numeric
Pin out	See below



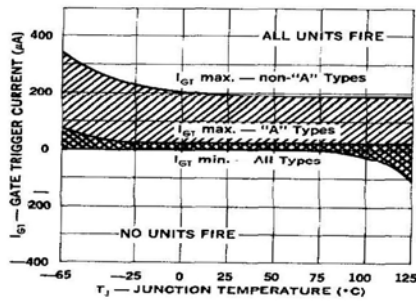
	TO-39			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.335	0.370	8.510	9.390
B	0.305	0.335	7.750	8.500
C	0.240	0.260	6.100	6.600
D	0.016	0.021	0.410	0.530
E	0.009	0.041	0.230	1.040
F	0.016	0.019	0.410	0.480
G	0.200 BSC		5.080 BSC	
H	0.028	0.034	0.720	0.860
J	0.029	0.045	0.740	1.140
K	0.500	0.750	12.700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

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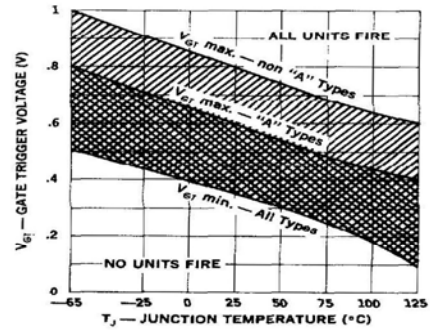
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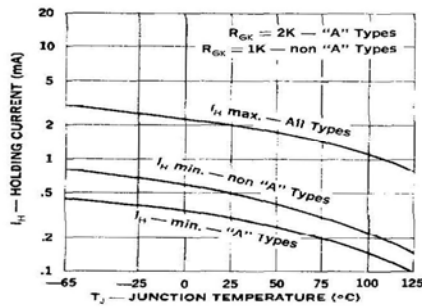
Gate Trigger Current



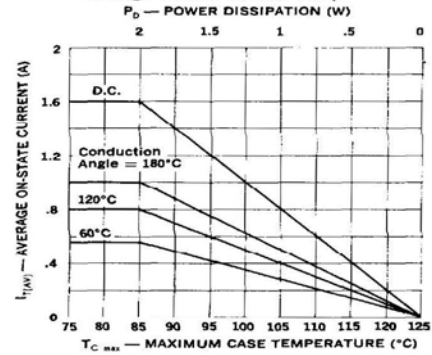
Gate Trigger Voltage



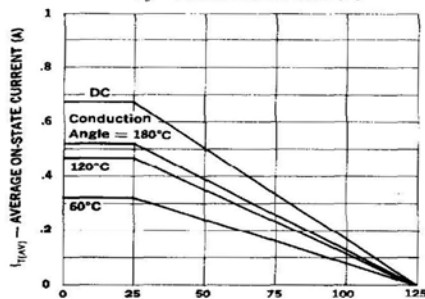
Holding Current



Average Current vs. Case Temperature



Average Current vs. Ambient Temperature



Surge Current

