

2N2322(A)-2N2329(A)

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

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 88°C ambient 85°C case	$I_{T(AV)}$	300 1.6								mA A
One cycle surge on-state current	I_{TM}	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 ($T_A = 25^\circ\text{C}$ unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS @ 125°C

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

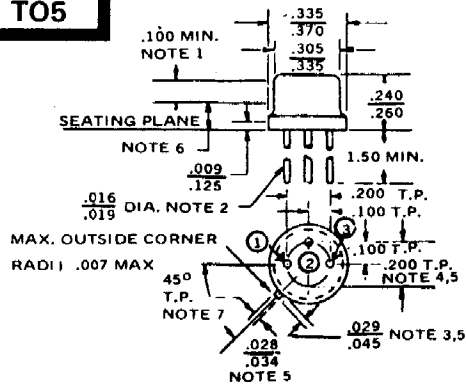
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SILICON CONTROLLED RECTIFIERS

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 for "A" types)
Reverse current	I_{RRM}	-	0.05	5.0	μA	$V_{RRM} = \text{rating}, R_{GK} = 1K$ (2K 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 -	0.8 0.9	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 for "A" types)

T05



TO5 NOTES:

1. This zone is controlled for automatic handling. The variation in actual diameter within the zone shall not exceed .010.
2. The specified lead diameter applies in the zone between .050 and .250 from the seating plane. Between .250 and 1.5 a maximum of .021 diameter is held. Outside of these zones the lead diameter is not controlled.
3. Measured from max. diameter of the actual device.
4. Leads having maximum diameter (.019) measured in gauging plane $.054 \pm .001 - .000$ below the seating plane of the device shall be within .007 of their true locations relative to a maximum-width tab.
5. The device may be measured by direct methods or by the gauge and gauging procedure described on the base gauge drawing, G5-1.
6. Details of outline in this zone optional.
7. Tab centerline.