Microsemi LAWRENCE

TECHNICAL DATA

SILICON CONTROLLED RECTIFIER

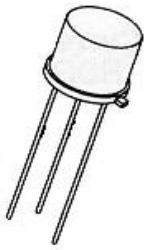
Qualified per MIL-PRF-19500/276

Devices					***Qualified Level***
2N2323	**2N2324**	**2N2326**	**2N2328**		**JAN**
2N2323S	**2N2324S**	**2N2326S**	**2N2328S**	**2N2329**	**JANTX**
2N2323A	**2N2324A**	**2N2326A**	**2N2328A**	**2N2329S**	**JANTXV**
2N2323AS	**2N2324AS**	**2N2326AS**	**2N2328AS**		

MAXIMUM RATINGS

Ratings	Sym	2N2323,S/ 2N2323A,S	2N2324,S/ 2N2324A,S	2N2326,S/ 2N2326A,S	2N2328,S/ 2N2328A,S	2N2329,S	Unit
Reverse Voltage	V_{RM}	50	100	200	300	400	Vdc
Working Peak Reverse Voltage	V_{RM}	75	150	300	400	500	Vpk
Forward Blocking Voltage	V_{FBXM}	50(3/4)	100(3/4)	200(3/4)	300(3/4)	400(3)	Vpk
Average Forward Current (1)	I_O	0.22					Adc
Forward Current Surge Peak(2)	I_{FSM}	15					Adc
Cathode-Gate Current	V_{KGM}	6					Vpk
Operating Temperature	T_{op}	-65 to +125					^{0}C
Storage Junction Temp	T_{stg}	-65 to +150					^{0}C

1) This average forward current is for an ambient temperature of 80^{0}C and 180 electrical degrees of conduction.
2) Surge current is non-recurrent. The rate of rise of peak surge current shall not exceed 40 A during the first 5 µs after switching from the 'off' (blocking) to the 'on' (conducting) state. This is measured from the point where the thyristor voltage has decayed to 90% of its initial blocking value.
3) Gate connected to cathode through 1,000 ohm resistor.
4) Gate connected to cathode through 2,000 ohm resistor.



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*See appendix A for package outline

ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
SUBGROUP 2 TESTING					
Reverse Blocking Current					
R_2 = 1 kµ	2N2323 thru 2N2329				
	2N2323S thru 2N2329S				
R_2 = 2 kµ	2N2323A thru 2N2328A				
	2N2323AS thru 2N2328AS				
V_R = 50 Vdc	2N2323, S, A, AS	I_{RBX1}		10	µAdc
V_R = 100 Vdc	2N2324, S, A, AS				
V_R = 200 Vdc	2N2326, S, A, AS				
V_R = 300 Vdc	2N2328, S, A, AS				
V_R = 400 Vdc	2N2329, S,				

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
Forward Blocking Current					
R_2 = 1 kΩ	2N2323 thru 2N2329				
	2N2323S thru 2N2329S				
R_2 = 2 kΩ	2N2323A thru 2N2328A				
	2N2323AS thru 2N2328AS	I_{FBX1}		10	μAdc
V_R = 50 Vdc	2N2323, S, A, AS				
V_R = 100 Vdc	2N2324, S, A, AS				
V_R = 200 Vdc	2N2326, S, A, AS				
V_R = 300 Vdc	2N2328, S, A, AS				
V_R = 400 Vdc	2N2329, S				
Reverse Gate Current					
V_{KG} = 6 Vdc		I_{KG}		200	μAdc
Gate Trigger Voltage and Current					
$V_2 = V_{FBX}$ = 6 Vdc; R_L = 100 Ω					
R_e = 1 kΩ	2N2323 thru 2N2329 and	V_{GT1}	0.35	0.80	Vdc
	2N2323S thru 2N2329S	I_{GT1}		200	μAdc
R_e = 2 kΩ	2N2323A thru 2N2328A and	V_{GT1}	0.35	0.60	Vdc
	2N2323AS thru 2N2328AS	I_{GT1}		20	μAdc

SUBGROUP 4 TESTING

Exponential Rate of Voltage Rise $T_A = 125^0$C					
50 Ω ≤ R_L ≤ 400 Ω, C = 0.1 to 1.0 μF, repetition rate = 60 pps, test duration = 15 seconds					
dv/dt = 1.8 v/μs, R_3 = 1 kΩ	2N2323 thru 2N2329 and 2N2323S thru 2N2329S				
dv/dt = 0.7 v/μs, R_3 = 2 kΩ	2N2323A thru 2N2328A and 2N2323AS thru 2N2328AS	V_{FBX}			Vdc
V_{AA} = 50 Vdc	2N2323, S, A, AS		47		
V_{AA} = 100 Vdc	2N2324, S, A, AS		95		
V_{AA} = 200 Vdc	2N2326, S, A, AS		190		
V_{AA} = 300 Vdc	2N2328, S, A, AS		285		
V_{AA} = 400 Vdc	2N2329, S		380		
Forward "on" Voltage					
i_{FM} = 4a (pk) (pulse), pulse width = 8.5 ms, max; duty cycle = 2% max		V_{FM}		2.2	V(pk)
Holding Current					
V_{AA} = 24 Vdc max, I_{F1} = 100 mAdc, I_{F2} = 10 mAdc					
Gate trigger source voltage = 6 Vdc,					
trigger pulse width = 25 μs min., R_2 = 330 Ω					
R_3 = 1 kΩ	2N2323 thru 2N2329 and 2N2323S thru 2N2329S	I_{HOX}		2.0	mAdc
R_3 = 2 kΩ	2N2323A thru 2N2328A and 2N2323AS thru 2N2328AS				