



**THE DATASHEET OF  
MSP430F67791A1PEUR**



## SILICON CONTROLLED RECTIFIER

Qualified per MIL-PRF-19500/276

### Devices

Qualified Level

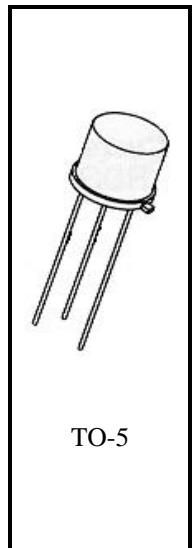
2N2323	2N2324	2N2326	2N2328	
2N2323S	2N2324S	2N2326S	2N2328S	2N2329
2N2323A	2N2324A	2N2326A	2N2328A	2N2329S
2N2323AS	2N2324AS	2N2326AS	2N2328AS	

JAN  
JANTX  
JANTXV

### 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 <sub>RM</sub>	50	100	200	300	400	Vdc	
Working Peak Reverse Voltage	V <sub>RM</sub>	75	150	300	400	500	Vpk	
Forward Blocking Voltage	V <sub>F BXM</sub>	50 <sup>(3/4)</sup>	100 <sup>(3/4)</sup>	200 <sup>(3/4)</sup>	300 <sup>(3/4)</sup>	400 <sup>(3)</sup>	Vpk	
Average Forward Current <sup>(1)</sup>	I <sub>O</sub>	0.22						Adc
Forward Current Surge Peak <sup>(2)</sup>	I <sub>FSM</sub>	15						Adc
Cathode-Gate Current	V <sub>KGM</sub>	6						Vpk
Operating Temperature	T <sub>OP</sub>	-65 to +125						°C
Storage Junction Temp	T <sub>STG</sub>	-65 to +150						°C

- 1) This average forward current is for an ambient temperature of 80°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.



\*See appendix A for package outline

### ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
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#### SUBGROUP 2 TESTING

Reverse Blocking Current				
R <sub>2</sub> = 1 kμ	2N2323 thru 2N2329 2N2323S thru 2N2329S			
R <sub>2</sub> = 2 kμ	2N2323A thru 2N2328A 2N2323AS thru 2N2328AS			
V <sub>R</sub> = 50 Vdc	2N2323, S, A, AS		10	μAdc
V <sub>R</sub> = 100 Vdc	2N2324, S, A, AS			
V <sub>R</sub> = 200 Vdc	2N2326, S, A, AS			
V <sub>R</sub> = 300 Vdc	2N2328, S, A, AS			
V <sub>R</sub> = 400 Vdc	2N2329, S,			

**2N2323, A, AS, S; 2N2324, A, AS, S; 2N2326, A, AS, S; 2N2328, A, AS, S; 2N232, S JAN SERIES**

**ELECTRICAL CHARACTERISTICS (con't)**

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

**SUBGROUP 4 TESTING**

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

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