Electronix EXPRESS
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1-800-972-2225 | www.elexp.com | electron@elexp.com

2N6236-2N6241 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 (T_C = 110°C unless otherwise noted)

Rating	Symbol	Value	Unit
Repetitive peak forward and reverse blocking voltage (1) (1/2 sine wave, R_{GK} = 1000Ω, T_C = -40 to +110°C) 2N6236 2N6237 2N6238 2N6239 2N6240 2N6241	V_{DRM} V_{RRM}	 30 50 100 200 400 600	Volts
Non-repetitive peak reverse blocking voltage (1/2 sine wave, R_{GK} = 1000Ω, T_C = -40 to +110°C) 2N6236 2N6237 2N6238 2N6239 2N6240 2N6241	V_{RSM}	 50 100 150 250 450 650	Volts
Average on-state current (T_C = -40 to +90°C) (T_C = 100°C)	$I_{T(AV)}$	 2.6 1.6	Amps
Surge on-state current (1/2 sine wave, 60Hz, T_C = 90°C) (1/2 sine wave, 1.5ms, T_C = 90°C)	I_{TSM}	 25 35	Amps
Circuit fusing (T_C = -40 to +110°C, t = 8.3ms)	I^2t	2.6	A^2s
Peak gate power (pulse width = 10μs, T_C = 90°C)	P_{GM}	0.5	Watts
Average gate power (t = 8.3ms, T_C = 90°C)	$P_{G(AV)}$	0.1	Watts
Peak forward gate current	I_{GM}	0.2	Amps
Peak reverse gate voltage	V_{RGM}	6	Volts
Operating junction temperature range	T_J	-40 to 110	°C
Storage temperature range	T_{stg}	-40 to 150	°C
Stud torque		6	In. lb.

Note 1: Ratings apply for zero or negative gate voltage. Devices shall not have a positive bias applied to the gate concurrently with a negative potential on the anode. Devices should not be tested with a constant source for forward or reverse blocking capability such that the voltage applied exceeds the rated blocking voltage.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal resistance, junction to case	$R_{\Theta JC}$	3	°C/W
Thermal resistance, junction to ambient	$R_{\Theta JA}$	75	°C/W

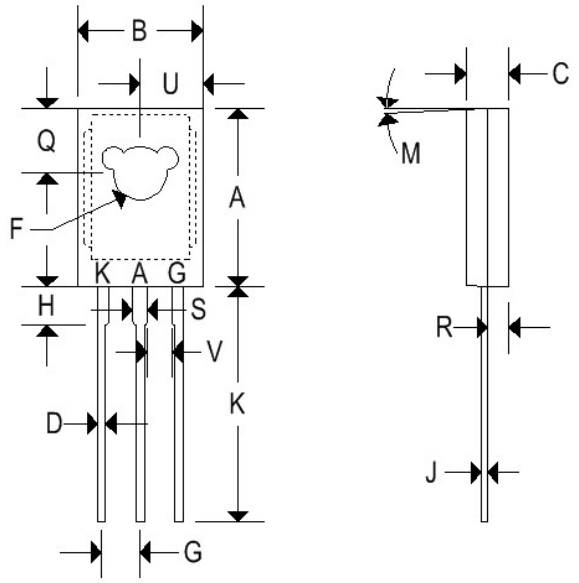
ELECTRICAL CHARACTERISTICS (T_C = 25°C, R_{GK} = 1000Ω unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Peak forward or reverse blocking current (Rated V_{DRM} or V_{RRM}) T_C = 25°C T_C = 110°C	I_{DRM}, I_{RRM}	 - -	 - -	 10 200	μA
Peak forward "on" voltage (I_{TM} = 8.2A peak, pulse width = 1 to 2ms, 2% duty cycle)	V_{TM}	-	-	2.2	Volts

Characteristic	Symbol	Min	Typ	Max	Unit
Gate trigger current (continuous dc) (V_{AK} = 12Vdc, R_L = 24Ω) (V_{AK} = 12Vdc, R_L = 24Ω, T_C = -40°C)	I_{GT}	- -	- -	200 500	µA
Gate trigger voltage (continuous dc) (Source voltage = 12V, R_S = 50Ω) (V_{AK} = 12Vdc, R_L = 24Ω, T_C = -40°C)	V_{GT}	-	-	1	Volts
Gate non-trigger voltage (V_{AK} = rated V_{DRM}, R_L = 100Ω, T_C = 110°C)	V_{GD}	0.2	-	-	Volts
Holding current (V_{AK} = 12Vdc, I_{GT} = 2mA) (initiating on state current = 200mA) T_C = 25°C T_C = -40°C	I_H	 - -	 - -	 5 10	mA
Total turn-on time (Source voltage = 12V, R_S = 6kΩ) (I_{TM} = 8.2A, I_{GT} = 2mA, rated V_{DRM}) (Rise time = 20ns, pulse width = 10µs)	t_{gt}	-	-	2	µs
Forward voltage application rate (V_D = Rated V_{DRM}, T_C = 110°C)	dv/dt	-	10	-	V/µs

MECHANICAL CHARACTERISTICS

Case	TO-126
Marking	Alpha-numeric
Pin out	See below



	TO-126			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.425	0.435	10.80	11.050
B	0.295	0.305	7.490	7.750
C	0.095	0.105	2.410	2.670
D	0.020	0.026	0.510	0.660
F	0.115	0.125	2.920	3.180
G	0.091	0.097	2.310	2.460
H	0.050	0.095	1.270	2.410
J	0.015	0.025	0.380	0.640
K	0.595	0.655	15.110	16.640
M	3° TYP		3° TYP	
Q	0.148	0.158	3.760	4.010
R	0.045	0.055	1.140	1.400
S	0.025	0.035	0.640	0.890
U	0.145	0.155	3.680	3.940
V	0.040	-	1.020	-

FIGURE 1 – MAXIMUM CASE TEMPERATURE

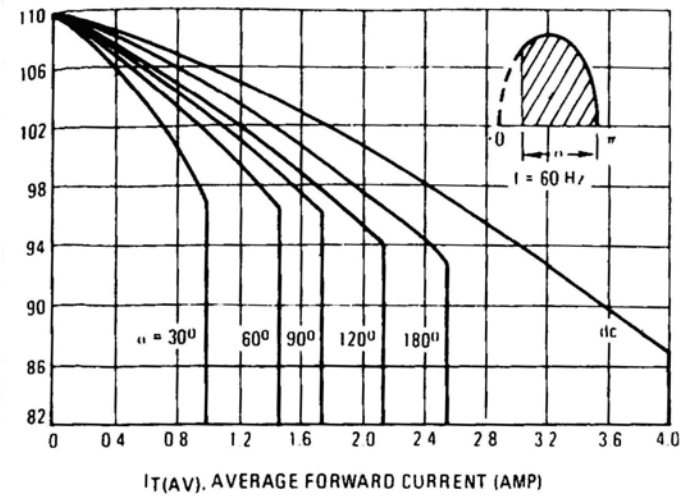


FIGURE 2 – MAXIMUM AMBIENT TEMPERATURE