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DIGITRON ELECTRONIC CORP.

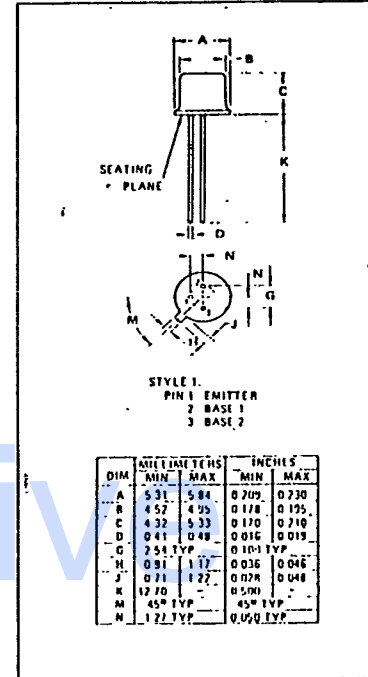
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2N2646 (SILICON)

SILICON ANNULAR PN UNIJUNCTION TRANSISTORS

... designed for use in pulse and timing circuits, sensing circuits and thyristor trigger circuits. These devices feature:

- Low Peak Point Current -- 2.0 μ A (Max)
- Low Emitter Reverse Current -- 200 nA (Max)
- Passivated Surface for Reliability and Uniformity.



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Intrinsic Standoff Ratio (V _{B2B1} = 10 V) (Note 1)	η	0.56	—	0.75	—
Interbase Resistance (V _{B2B1} = 3.0 V, I _E = 0)	r _{BB}	4.7	7.0	9.1	k ohms
Interbase Resistance Temperature Coefficient (V _{B2B1} = 3.0 V, I _E = 0, T _A = -55°C to +125°C)	α r _{BB}	0.1	—	0.9	%/°C
Emitter Saturation Voltage (V _{B2B1} = 10 V, I _E = 50 mA) (Note 2)	V _{EB1(sat)}	—	0.5	—	Volts
Modulated Interbase Current (V _{B2B1} = 10 V, I _E = 50 mA)	I _{B2(mod)}	—	15	—	mA
Emitter Reverse Current (V _{B2E} = 30 V, I _{B1} = 0)	I _{EB20}	—	0.005	12	μ A
Peak Point Emitter Current (V _{B2B1} = 25 V)	I _p	—	1.0	5.0	μ A
Valley Point Current (V _{B2B1} = 20 V, R _{B2} = 100 ohms) (Note 2)	I _v	4.0	6.0	—	mA
Base One Peak Pulse Voltage (Note 3, Figure 3)	V _{OB1}	3.0	5.0	—	Volts

(2) Use pulse techniques: PW \approx 300 μ s, duty cycle \leq 2% to avoid internal heating due to interbase modulation which may result in erroneous readings.

Notes:

(1) Intrinsic standoff ratio, η , is defined by equation:

$$\eta = \frac{V_p - V_f}{V_{B2B1}}$$

Where V_p = Peak Point Emitter Voltage
 V_{B2B1} = Interbase Voltage
 V_f = Emitter to Base-One Junction Diode Drop (\approx 0.5 V @ 10 μ A)

(3) Base-One Peak Pulse Voltage is measured in circuit of Figure 3. This specification is used to ensure minimum pulse amplitude for applications in SCR firing circuits and other types of pulse circuits.

FIGURE 1 UNIJUNCTION TRANSISTOR SYMBOL AND NOMENCLATURE

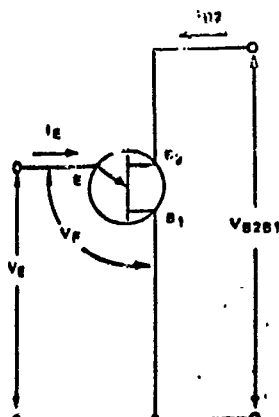


FIGURE 2 STATIC EMITTER CHARACTERISTIC CURVES (Exaggerated to Show Details)

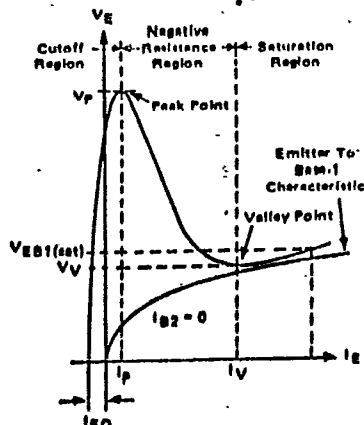
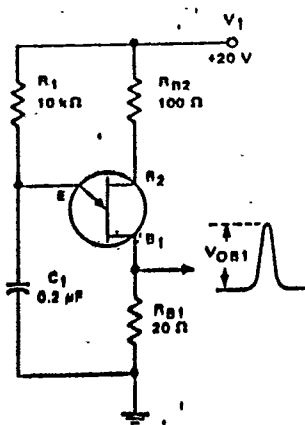


FIGURE 3 - V_{OB1} TEST CIRCUIT (Typical Relaxation Oscillator)



EDITOR

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