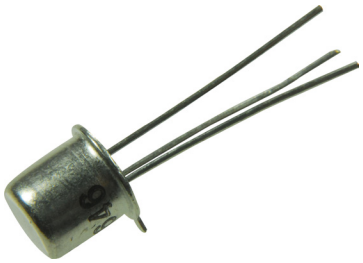
Unijunction Transistor

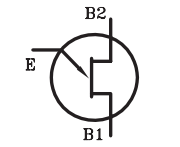
multicomp PRO

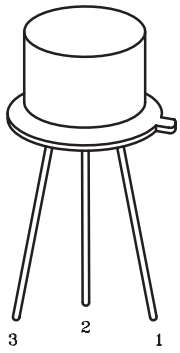


RoHS Compliant

Description:

A TO-18, PN, Unijunction Transistor designed for use in pulse and timing circuits, sensing circuits, and thyristor trigger circuits.





1. EMITTER
2. BASE 1
3. BASE 2

Features:

- Low peak point current : 2μA (Max.)
- Low emitter reverse current : 200nA (Max.)
- Passivated surface for reliability and uniformity

Absolute Maximum Ratings: (Ta = 25°C Unless otherwise specified)

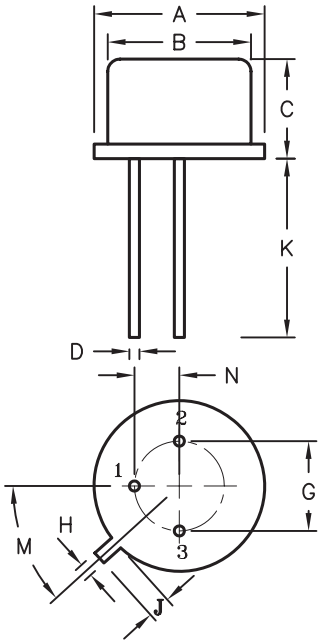
Characteristic	Symbol	Rating
Power Dissipation (Note 1)	P_D	300mW
RMS Emitter Current	$I_{E(RMS)}$	50mW
Peak Pulse Emitter Current (Note 2)	I_E	2 Amps
Emitter Reverse Voltage	V_{B2E}	30V
Interbase Voltage	V_{B2B1}	35V
Operating Junction Temperature Range	T_J	-65°C to +125°C
Storage Temperature Range	T_{STG}	-65°C to +150°C

Electrical Characteristics: (T_A = +25°C Unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit.
OFF Characteristics						
Intrinsic Standoff Ratio	-	V_{B2B1} = 10V, (Note 3)	0.56	-	0.75	-
Interbase Resistance	R_{BB}	V_{B2B1} = 3V, I_E = 0	4.7	7	9.1	kΩ
Interbase Resistance Temperature Coefficient	-	-	0.1	-	0.9	% / °C
Emitter Saturation Voltage	$V_{EB1(SAT)}$	V_{B2B1} = 10V, I_E = 50mA, (Note 4)	-	3.5	-	V
Modulated Interbase current	$V_{B2(MOD)}$	V_{B2B1} = 10V, I_E = 50mA	-	15	-	mA
Emitter Reverse Current	I_{EB2O}	V_{B2E} = 30V, I_{B1} = 0	-	0.005	12	μA
Peak Point Emitter Current	I_P	V_{B2B1} = 25V	-	1	5	μA
Valley Point Current	I_V	V_{B2B1} = 20V, R_{B2} = 100Ω	4	6	-	mA
Base-One Peak Pulse Voltage	V_{OB1}	-	3	5	-	V

Notes:

1. Derate 3mW/°C increase in ambient temperature. The total power dissipation (available power to Emitter and Base-Tow) must be limited by the external circuitry.
2. Capacitor discharge - 10µF or less, 30V or less.
3. Intrinsic standoff ration is defined by the equation : V_P - V_F / V_{B2B1}
   Where : V_P = Peak Point Emitter Voltage; V_{B2B1} = Interbase ; V_F = Emitter to Base-one Junction Diode Drop (~0.45V @ 10µA)
4. Use pulse techniques : Pulse Width ~300µS, Duty Cycle ≦ 2% to avoid internal heating due to interbase modulation which may result in erroneous readings.



1. EMITTER
2. BASE 1
3. BASE 2

Dim.	A	B	C	D	G	H	J	K	M	N
Min.	5.31	4.52	4.32	0.41	2.54	0.91	0.71	12.7	45°	1.27
Max.	5.84	4.95	5.33	0.48		1.17	1.22			

Dimensions : Millimetres

Part Number Table

Description	Part Number
Unijunction Transistor, PN, 2A, TO-18	2N2646