multicomp

REVISIONS			DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398					
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1262	A	RELEASED	HO	9/5/02	JWM	9/5/02	DJC	9/6/06

Description: A PN Unijunction Transistor designed for use in pulse and timing circuits, sensing circuits, and thyristor trigger circuits.

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	7.0	9.1	k Ohms
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	$I_{B2(mod)}$	V_{B2B1}= 10V, I_E= 50mA	—	15	—	mA
Emitter Reverse Current	I_{EB20}	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}= 100 Ohms	4	6	—	mA
Base-One Peak Pulse Voltage	V_{OB1}		3	5	—	V

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

ABSOLUTE MAXIMUM RATINGS: (T_A = 25°C Unless otherwise specified)
- Power Dissipation (Note 1) P_D: 300 mW
- RMS Emitter Current $I_{E(RMS)}$: 50mA
- Peak Pulse Emitter Current (Note 2), i_E: 2 Amps
- Emitter Reverse Voltage V_{B2E}: 30 Volts
- Interbase Voltage V_{B2B1}: 35 Volts
- Operating Junction Temperature Range T_J: -65°C ~ +125°C
- Storage Temperature Range T_{stg}: -65°C ~ +150°C

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 Voltage; V_F = Emitter to Base-One Junction Diode Drop (~0.45V @ 10 µA)
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
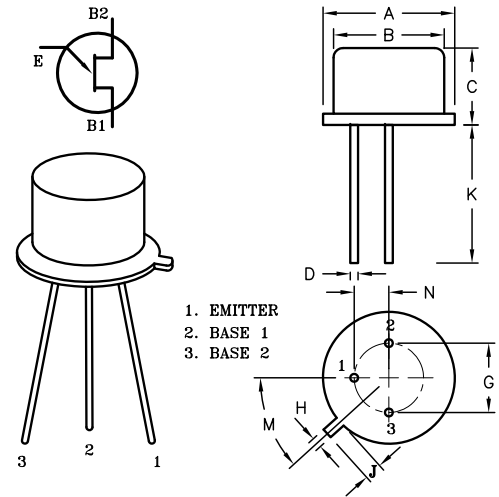
Dimensions	A	B	C	D	G	H	J	K	M	N
Min.	5.31	4.52	4.32	0.41	2.54	0.91	0.71	12.7	45°	1.27
Max.	5.84	4.95	5.33	0.48		1.17	1.22			

TOLERANCES:
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:	DATE:
HISHAM ODISH	9/5/02
CHECKED BY:	DATE:
JEFF MCVICKER	9/5/02
APPROVED BY:	DATE:
DANIEL CAREY	9/6/02

DRAWING TITLE: **Transistor, Unijunction, TO-18, PN**

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N2646	35C0693.DWG	A
SCALE: NTS	U.O.M.: Millimeters	SHEET: 1 OF 1	