multicomp

SPC-F005.DWG

REVISIONS

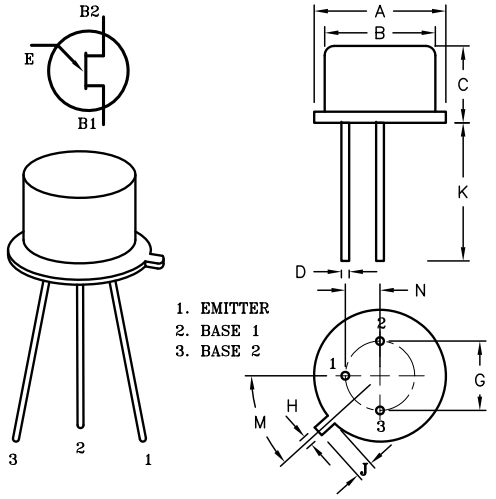
DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398

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	0.68	–	0.82	–
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	0.2	µA
Peak Point Emitter Current	I_P	V_{B2B1}= 25V	–	1	2	µA
Valley Point Current	I_V	V_{B2B1}= 20V, R_{B2}= 100 Ohms	8	10	18	mA
Base-One Peak Pulse Voltage	V_{OB1}		6	7	–	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

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			

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.

TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

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

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N2647	35C0694.DWG	A

SCALE: NTS | U.O.M.: Millimeters | SHEET: 1 OF 1