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
1885	A	RELEASED	BYF	02/03/06	HO	2/6/06	JWM	2/6/06

Description: A silicon PNP Darlington transistor in a TO-220 type case designed for general-purpose amplifier and low-speed switching applications.

Features:
- High DC Current Gain
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors

RoHS Compliant

Absolute Maximum Ratings:
- Collector-Base Voltage, V_{CBO} = 80V
- Collector-Emitter Voltage, V_{CEO} = 80V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 4A
  Peak = 6A
- Base Current, I_B = 50mA
- Total Device Dissipation (T_C = +25°C), P_D = 50W
  Derate above 25°C = 0.4mW/°C
- Total Device Dissipation (T_C = +25°C), P_D = 2W
  Derate above 25°C = 0.016mW/°C
- Operating Junction Temperature Range, T_J = −65°C to +120°C
- Storage Temperature Range, T_{stg} = −65°C to +120°C
- Thermal Resistance, Junction-to-Case, R_{thJC} = 2.5°C/W
- Thermal Resistance, Junction-to-Ambient, R_{thJA} (Note 1) = 62.5°C/W

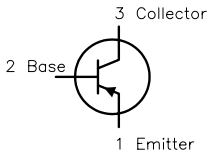
Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	–	1.15	3.75	2.29	2.54	–	12.70	2.80	2.03	–	7°
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	

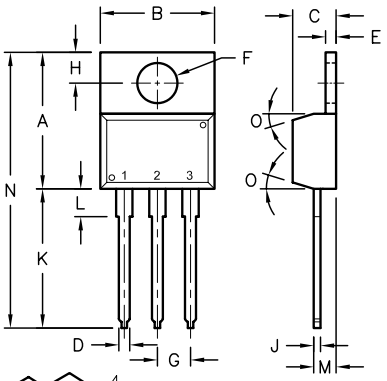
Electrical Characteristics: (T_C= +25°C unless otherwise specified)

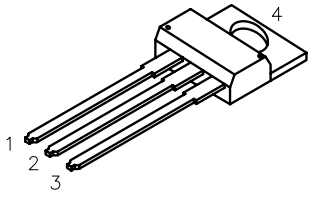
Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 2)	$V_{(BR)CEO}$	I_C = 30mA, I_B = 0	80	–	V
Collector Cut-Off Current	I_{CBO}	V_{CB} = 80V, I_E = 0	–	1	mA
	I_{CEO}	V_{CB} = 40V, I_B = 0	–	2	mA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	2	mA
ON Characteristics (Note 2)					
DC Current Gain	h_{FE}	V_{CE} = 4V, I_C = 1A	1000		–
		V_{CE} = 4V, I_C = 2A	500		–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 8mA	–	2.5	V
Base-Emitter On Voltage	$V_{BE(on)}$	I_C = 2A, V_{CE} = 4V		2.8	V
Dynamic Characteristics					
Output Capacitance	C_{obo}	V_{CB} = V, I_E = 0, f = MHz	–		pF

Note 1. I_C = 1A, L = 100mH, P.R.F. = 10Hz, V_{CC} = 20V, R_{BE} = 100 Ohm.
Note 2. Pulse test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

PNP







Pin Configuration:
1. Base
2. Collector
3. Emitter
4. Collector

TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:	DATE:
BASAM YOUSIF	02/03/06
CHECKED BY:	DATE:
HISHAM ODISH	2/6/06
APPROVED BY:	DATE:
JEEF MCVICKER	2/6/06

DRAWING TITLE: General Purpose Transistor, Silicon, TO-220, PNP

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TIP116	01H1003.DWG	A

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