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 medium power silicon, PNP transistor in a TO-220 type package designed for switching and amplifier applications. This device is especially designed for series and shunt regulators and as a driver and output stage of high-fidelity amplifiers.

Features:
- Low Saturation Voltage

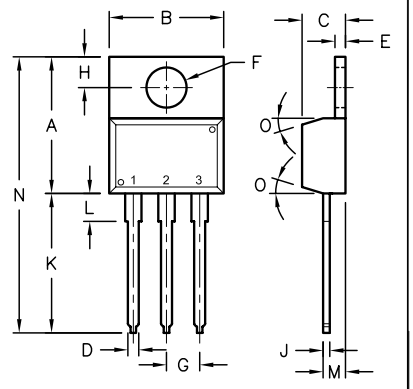
Absolute Maximum Ratings:
- Collector-Base Voltage, V_{CBO} = 100V
- Collector-Emitter Voltage, V_{CEO} = 60V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 3A
- Base Current, I_B = 0.4A
- Total Device Dissipation (T_C = +25°C), P_D = 30W
  Derate above 25°C = 0.24mW/°C
- 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 +150°C
- Storage Temperature Range, T_{stg} = −65°C to +150°C
- Thermal Resistance, Junction-to-Case, R_{thJC} = 4.167°C/W
- Thermal Resistance, Junction-to-Ambient, R_{thJA} = 62.5°C/W

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

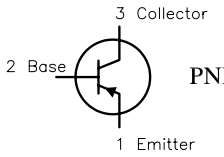
Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	I_C = 30mA, I_B = 0	60	–	V
Collector Cut-Off Current	I_{CEO}	V_{CB} = 30V, I_B = 0	–	0.3	mA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	1	mA
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	V_{CE} = 4 V, I_C = 0.2A	40	–	–
		V_{CE} = 4 V, I_C = 1A	15	75	–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 125mA	–	0.7	V
Base-Emitter On Voltage	$V_{BE(on)}$	I_C = 1A, V_{CE} = 4V	–	1.3	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 200mA, f = 1MHz	3	–	MHz
Small-Signal Current Gain	h_{fe}	V_{CE} = 10 V, I_C = 200mA, f =1kHz	20	–	–

Note 1. Pulsed: Pulse Duration = 300μs, Duty Factor = 0.018.

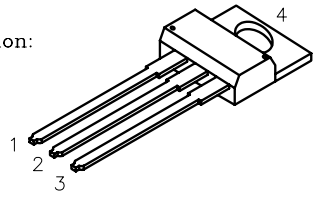
Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	0
Min.	14.42	9.63	3.56	–	1.15	3.75	2.29	2.54	–	12.70	2.80	2.03	–	7°
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	



RoHS Compliant



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



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

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DRAWING TITLE: Medium Power Transistor, Silicon, TO-220, PNP

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TIP30A	01H1004.DWG	A

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