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	02/08/06	HO	2/6/06	JWM	2/6/06

Description: Plastic, NPN, TO-220 power transistor General purpose amplifier and switching applications

RoHS Compliant

Features:
- Collector Emitter Saturation Voltage I_C=3A, I_B=0.6A, V_{CE} =1.2V (Max)
- D.C. Current Gain I_C=1A, V_{CE}=4V h_{FE}=25 (Min)

Absolute Maximum Ratings:
- Collector-Base Voltage, V_{CES} = 115V
- Collector-Emitter Voltage, V_{CEO} = 100V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 3A
- Base Current, I_B = 1A
- Total Device Dissipation (T_C = +25°C), P_D = 40W
  Derate above 25°C = 0.32mW/°C
- Operating Junction Temperature Range, T_J = −65°C to +150°C
- Storage Temperature Range, T_{stg} = −65°C to +150°C

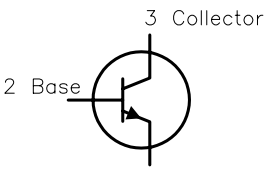
Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	–	1.15	3.75	2.29	2.54	–	12.70	2.80	2.03	–	7°
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	

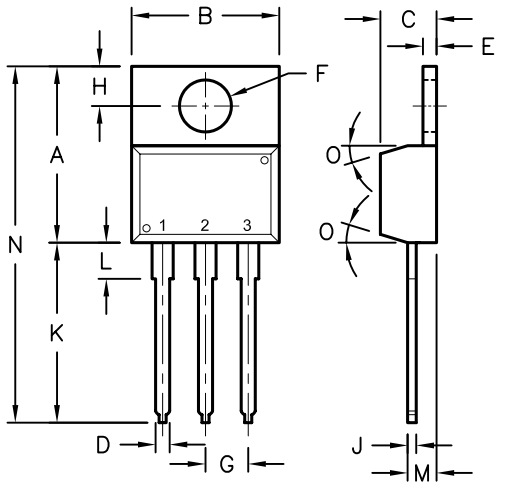
Electrical Characteristics: (T_C= +25°C unless otherwise specified)

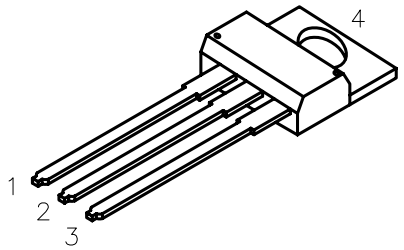
Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 30mA, I_B = 0 Note 1	100	–	V
Collector-Base Breakdown Voltage	$V_{(BR)CES}$	I_C = 1mA, V_{BE} = 0	115	–	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	5	–	V
Collector Cut-Off Current	I_{CES}	V_{CE} = 100V, V_{BE} = 0	–	0.2	mA
	I_{CEO}	V_{CB} = 60V, 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} = 4V, I_C = 1A	25	–	–
		V_{CE} = 4V, I_C = 3A	10	–	–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 3A, I_B = 0.6A	–	1.2	V
Base-Emitter On Voltage	$V_{BE(on)}$	I_C = 3A, V_{CE} = 4V	–	1.8	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 0.5A, f = 1MHz	3	–	MHz
Small-Signal Current Gain	h_{fe}	V_{CE} = 10V, I_C = 0.5A, f = 1kHz	20	–	–

Note 1. Pulse Test: Pulse Width ≦ 300μs, Duty Cycle ≦ 2%

NPN







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	02/08/06
CHECKED BY:	DATE:
HISHAM ODISH	2/6/06
APPROVED BY:	DATE:
JEEF MCVICKER	2/6/06

DRAWING TITLE: General Purpose Power Transistor, Plastic, TO-220, NPN

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	BD241C	02H2179.DWG	A

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