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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: Silicon, TO-220, Plastic, PNP Power Transistor Designed for use in general purpose amplifier and switching applications

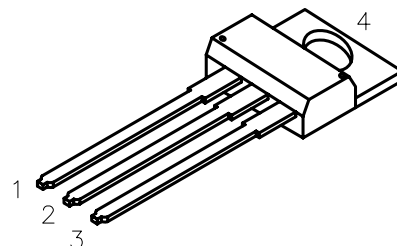


Features:

- High Current Gain Bandwidth Product f_T 10 MHz (Min) @ I_C 500 mA
- Collector Emitter Sustaining Voltage V_{CEO} 70V (Min.)

Absolute Maximum Ratings:

- Collector-Base Voltage, V_{CBO} = 80V
- Collector-Emitter Voltage, V_{CEO} = 70V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 7A
- Base Current, I_B = 3A
- Total Device Dissipation ($T_C = +25^\circ C$), P_D = 40W
Derate above $25^\circ C = 0.32mW/^\circ C$
- Operating Junction Temperature Range, $T_J = -65^\circ C$ to $+150^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ C$ to $+150^\circ C$



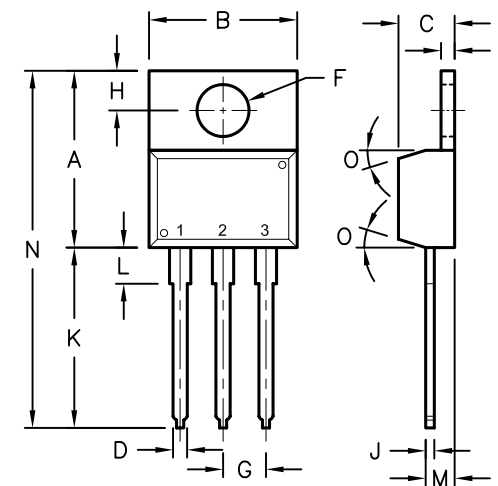
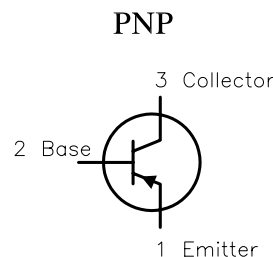
Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

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	

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	$I_C = 100mA, I_B = 0$	70	-	V
Collector Cut-Off Current	I_{CEX}	$V_{CE} = 80V, V_{EB(off)} = 1.5V$	-	100	μA
	I_{CEO}	$V_{CB} = 60V, I_B = 0$	-	1	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	-	1	mA
ON Characteristics					
DC Current Gain (Note 1)	h_{FE}	$V_{CE} = 4V, I_C = 2A$	30	150	-
		$V_{CE} = 4V, I_C = 7A$	2.3	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 7A, I_B = 3A$	-	3.5	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 7A, V_{CE} = 4V$	-	3	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product (Note 2)	f_T	$V_{CE} = 4V, I_C = 500mA, f = 1MHz$	10	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	250	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 4V, I_C = 0.5A, f = 50kHz$	20	-	-



Note 1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
 Note 2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

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

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DRAWING TITLE: General Purpose Power Transistor, Silicon, Plastic, TO-220, PNP			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N6107	01H1386.DWG	A
SCALE: NTS		U.O.M.: MILLIMETERS	SHEET: 1 OF 1