multicomp

SPC-F005.DWG

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

REVISIONS								
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1885	A	RELEASED	EO	02/03/06	HO	2/6/06	JWM	2/6/06

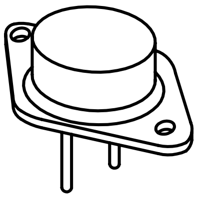
Features:

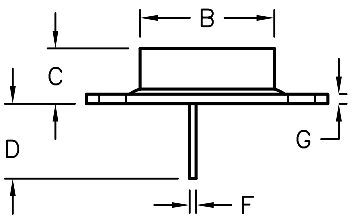
- Low Collector Emitter Saturation Voltage: $V_{CE(sat)1V}$ I_C = 15A
- High Current Gain-Bandwidth Product: f_T = 4.0MHz (Min) @ I_C = 1A
- Low Leakage Current I_{CEX} = 1MA (max) at Rated Voltage
- Excellent DC Current Gain h_{FE} = 20 (min) @ I_C = 10A

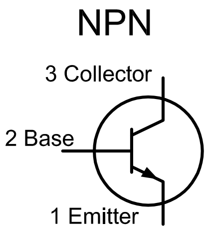
Absolute Maximum Ratings:

- Collector-Base Voltage, V_{CBO} = 80V
- Collector-Emitter Voltage, V_{CEO} = 80V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 25A
- Base Current, I_B = 7.5A
- Total Device Dissipation (T_C = +25°C), P_D = 200W
  Derate above 25°C = 1.15mW/°C
- Operating Junction Temperature Range, T_J = −65° to +200°C
- Storage Temperature Range, T_{stg} = −65° to +200°C

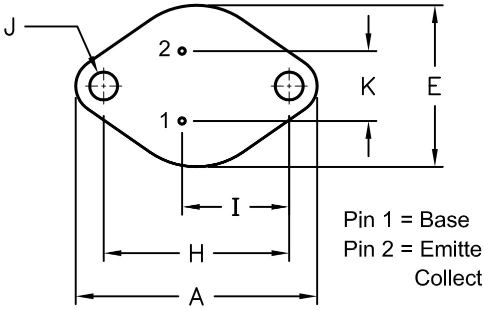
RoHS Compliant







DIM	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18



Pin 1 = Base
Pin 2 = Emitter
Collector (Case)

Description: High Power, TO-3, NPN, Transistor

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 200mA, I_B = 0, (Note 1)	80	–	V
Collector Cut-Off Current	I_{CEX}	V_{CE} = 80V, $V_{EB(off)}$ = 1.5V	–	1	mA
	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	–	1	mA
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	V_{CE} = 4V, I_C =3A	35	–	–
		V_{CE} = 4V, I_C = 10A	20	100	–
		V_{CE} = 4V, I_C = 25A	4	–	–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 15A, I_B = 1.5A	–	1	V
		I_C = 25A, I_B = 6.25A	–	4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 25A, I_B = 6.25A	–	2.5	V
Base-Emitter On Voltage	$V_{BE(on)}$	I_C = 10A, V_{CE} = 4V	–	1.5	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product (Note 2)	f_T	V_{CE} = 10V, I_C = 1A, f = 1MHz	4	–	MHz
Output Capacitance	C_{obo}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	500	pF
Small-Signal Current Gain	h_{fe}	V_{CE} = 4V, I_C = 3A, f = 1kHz	20	–	–
Switching Characteristics					
Rise Time	t_r	V_{CC} = 30V, I_C = 10A, I_{B1} = I_{B2} = 1A	–	0.7	us
Storage Time	t_s	V_{CC} = 30V, I_C = 10A, I_{B1} = I_{B2} = 1A	–	1	us
Fall Time	t_f		–	0.8	us

Notes:
1. Pulse Test: Pulse Width ≦ 300μs, Duty Cycle ≦ 2%.
2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

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

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CHECKED BY:	DATE:
HISHAM ODISH	2/6/06
APPROVED BY:	DATE:
JEFF MCVICKER	2/6/06

DRAWING TITLE:
High Power Transistor, Bipolar, Metal, TO-3, NPN

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N5886	01H1385.DWG	A

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