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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:

High Power PNP, TO-3, Silicon Transistor. Designed for industrial military power amplifier and switching circuit applications.

Features:

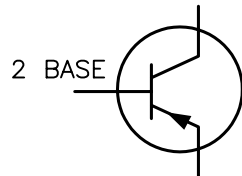
- Low Collector Saturation Voltage: $V_{CE(sat)}$ 1V (Max) $I_C = 10A$
- High Collector Emitter Sustaining Voltage: $V_{CEO} = 120V$ (Min)

Absolute Maximum Ratings:

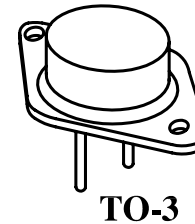
- Collector-Base Voltage, $V_{CBO} = 140V$
- Collector-Emitter Voltage, $V_{CEO} = 120V$
- Emitter-Base Voltage, $V_{EBO} = 6V$
- Continuous Collector Current, $I_C = 25A$
- Base Current, $I_B = 10A$
- Total Device Dissipation ($T_C = +25^\circ C$), $P_D = 200W$
Derate above $25^\circ C = 1.14mW/^\circ C$
- Operating Junction Temperature Range, $T_J = -65^\circ C$ to $+200^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ C$ to $+200^\circ C$

PNP

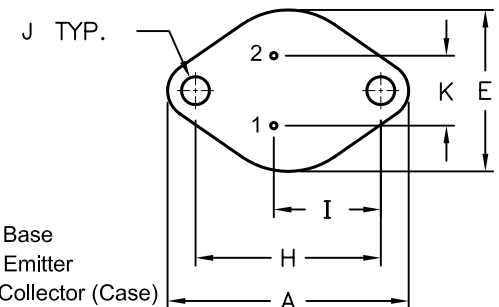
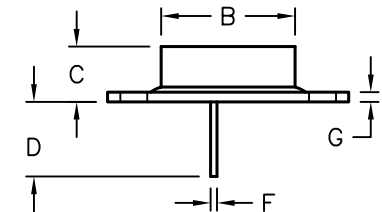
3 COLLECTOR



1 EMITTER



DIM	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.23
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)

DISCLAIMER:
ALL STATEMENTS AND TECHNICAL INFORMATION CONTAINED HEREIN ARE BASED UPON INFORMATION AND/OR TESTS WE BELIEVE TO BE ACCURATE AND RELIABLE. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE INTENDED USE AND ASSUME ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.

TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:

BASAM YOUSIF

CHECKED BY:

HISHAM ODISH

APPROVED BY:

JEEF MCVICKER

DATE:

02/03/06

DATE:

2/6/06

DATE:

2/6/06

DRAWING TITLE:

High Power Transistor, Silicon, TO-3, PNP

SIZE

A

DWG. NO.

2N6438

ELECTRONIC FILE

01H1391.DWG

REV

A

SCALE: NTS

U.O.M.: MILLIMETERS

SHEET: 1 OF 2

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics

Collector–Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	$I_C = 50\text{mA}, I_B = 0$	120	—	V
Collector Cut–Off Current	I_{CEX}	$V_{CE} = 130\text{V}, V_{EB(off)} = 1.5\text{V}$	—	10	μA
	I_{CBO}	$V_{CB} = 140\text{V}, I_E = 0$	—	10	μA
	I_{CEO}	$V_{CB} = 60\text{V}, I_B = 0$	—	50	μA
Emitter Cut–Off Current	I_{EB0}	$V_{EB} = 6\text{V}, I_C = 0$	—	100	μA

ON Characteristics

DC Current Gain (Note 1)	h_{FE}	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$	30	—	—
		$V_{CE} = 2\text{V}, I_C = 10\text{A}$	20	80	—
		$V_{CE} = 2\text{V}, I_C = 25\text{A}$	12	—	—
Collector–Emitter Saturation Voltage (Note 1)	$V_{CE(sat)}$	$I_C = 10\text{A}, I_B = 1\text{A}$	—	1	V
		$I_C = 25\text{A}, I_B = 2.5\text{A}$	—	1.8	V
Base–Emitter Saturation Voltage (Note 1)	$V_{BE(sat)}$	$I_C = 10\text{A}, I_B = 1\text{A}$	—	1.8	V
		$I_C = 25\text{A}, I_B = 2.5\text{A}$	—	2.5	V

Small-Signal Characteristics

Current Gain–Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 1\text{A}, f = 10\text{MHz}$	40	—	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10\text{V}, I_E = 0, f = 100\text{kHz}$	—	700	P_F

Switching Characteristics

Rise Time	t_r	$V_{CC} = 80\text{V}, I_C = 10\text{A}, V_{BE(off)} = 6\text{V}, I_{B1} = 1\text{A}$	—	0.3	μA
Storage Time	t_s	$V_{CC} = 80\text{V}, I_C = 10\text{A}, V_{BE(off)} = 6\text{V}, I_{B1} = I_{B2} = 1\text{A}$	—	1	μA
Fall Time	t_f		—	0.25	μA

Note 1. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.