

multicomp

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SPC-PD04.DWG

REVISIONS

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1820	A	RELEASED	HO	3/24/04	JN	04/04/08	JN	04/04/08

NPN

Description: This TO-126 plastic silicon epitaxial base NPN power transistor intended for use in power linear and switching applications

Absolute Maximum Ratings:

- Collector–Base Voltage, $V_{CB0} = 80V$
- Collector–Emitter Voltage, $V_{CE0} = 80V$
- Emitter–Base Voltage, $V_{EB0} = 5V$
- Continuous Collector Current, $I_C = 4A$
- Base Current, $I_B = 1A$
- Total Device Dissipation ($T_C = +25^{\circ}C$), $P_D = 36W$
- Operating Junction Temperature Range, $T_J = -65^{\circ}C$ to $+150^{\circ}C$
- Storage Temperature Range, $T_{stg} = -65^{\circ}C$ to $+150^{\circ}C$

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics

Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100mA$, $I_B = 0$	80	–	V
Collector Cut–Off Current	I_{CBO}	$V_{CB} = 80V$, $I_B = 0$	–	100	μA
	I_{CES}	$V_{CE} = 80V$, $V_{BE} = 0$	–	100	μA
Emitter Cut–Off Current	I_{EBO}	$V_{EB} = 5V$, $I_C = 0$	–	1	mA

ON Characteristics

DC Current Gain	h_{FE}	$V_{CE} = 5V$, $I_C = 10mA$	15	–	–
		$V_{CE} = 1V$, $I_C = 500mA$	40	–	–
		$V_{CE} = 1V$, $I_C = 2A$	15	–	–
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A$, $I_B = 0.2A$	–	0.8	V
Base–Emitter On Voltage	$V_{BE(on)}$	$I_C = 2A$, $V_{CE} = 1V$	–	1.5	V

Small-Signal Characteristics

Current Gain–Bandwidth Product	f_T	$V_{CE} = 1V$, $I_C = 250mA$	3	–	MHz
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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.

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:	DATE:	DRAWING TITLE:		
HISHAM ODISH	3/24/04	Transistor, Bipolar, Plastic, TO-126, NPN		
CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE
Jason Nash	04/04/08	A	BD441	01H0331.DWG
APPROVED BY:	DATE:	SCALE:	NTS	SHEET: 1 OF 1
Jason Nash	04/04/08			

Dim	Min	Max
A	10.80	11.05
B	7.49	7.75
C	2.41	2.67
D	0.51	0.66
E	2.92	3.18
F	2.31	2.46
G	1.27	2.41
H	0.38	0.64
J	15.11	16.64
K	3.76	4.01
L	1.14	1.40
M	0.84	0.89
N	3.68	3.94
O	1.02	–

STYLE 1
PIN 1. EMITTER
2. COLLECTOR
3. BASE

