



ALL RIGHTS RESERVED. NO PORTION OF THIS PUBLICATION, WHETHER IN WHOLE OR IN PART CAN BE REPRODUCED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPC TECHNOLOGY.

SPC-F005.DWG

REVISIONS

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

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1447	A	RELEASED	HO	1/21/04	SF	8/18/04	JC	8/24/04
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06

Description:

PLASTIC, NPN, TO-126 POWER TRANSISTOR

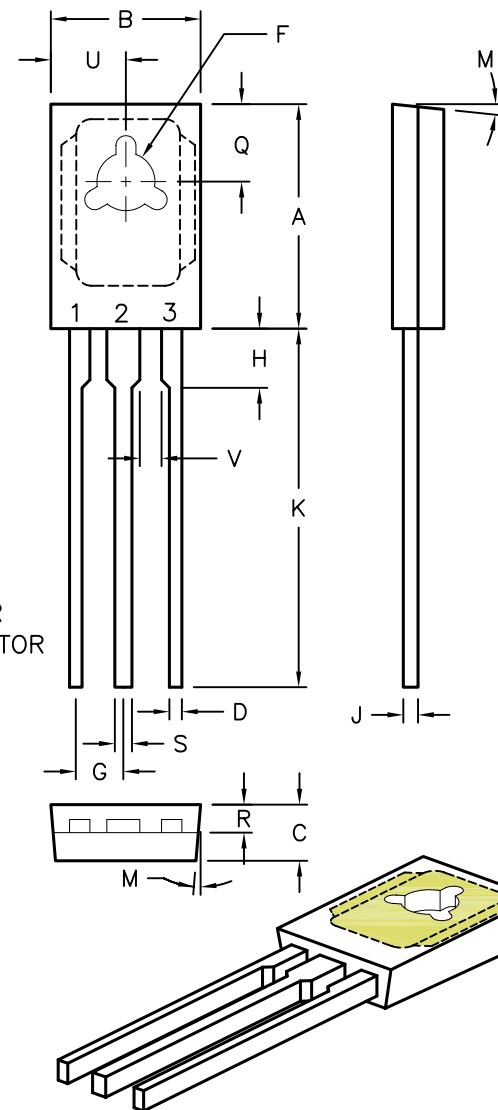
Medium power linear and switching applications



RoHS
Compliant

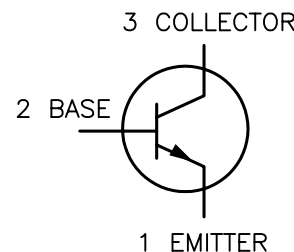
NPN

Dim	Min	Max
A	10.8	11.05
B	7.49	7.75
C	2.41	2.67
D	0.51	0.66
F	2.92	3.18
G	2.31	2.46
H	1.27	2.41
J	0.38	0.64
K	15.11	16.64
M	3" TYP	
Q	3.76	4.01
R	1.14	1.40
S	0.64	0.89
U	3.68	3.94
V	1.02	—



STYLE 1

PIN 1. EMITTER
2. COLLECTOR
3. BASE



Features:

- Collector-Emitter Saturation Voltage, $I_C = 150\text{mA}$, $I_B = 0.1\text{A}$, $V_{CE} = 0.6\text{V}$ (Max)
- D.C. Current Gain $I_C = 150\text{mA}$, $V_{CE} = 2\text{V}$, $h_{FE} 40$ (Min)

Absolute Maximum Ratings:

- Collector-Base Voltage, $V_{CBO} = 100\text{V}$
- Collector-Emitter Voltage, $V_{CEO} = 80\text{V}$
- Emitter-Base Voltage, $V_{EBO} = 5\text{V}$
- Continuous Collector Current, $I_C = 2\text{A}$
- Total Device Dissipation ($T_C = +25^\circ\text{C}$), $P_D = 25\text{W}$
- Operating Junction Temperature Range, $T_J = +150^\circ\text{C}$
- Storage Temperature Range, $T_{stg} = -65^\circ\text{C}$ to $+150^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{A}$, $I_B = 0$, Note 1	80	—	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}$, $I_E = 0$	100	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 1\text{mA}$, $I_C = 0$	5	—	V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 100\text{V}$, $I_E = 0$	—	100	μA
		$V_{CB} = 100\text{V}$, $I_E = 0$, $T_A = +150^\circ\text{C}$	—	2	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	—	1	mA
ON Characteristics, Note 1					
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}$, $I_C = 150\text{mA}$	40	—	—
		$V_{CE} = 2\text{V}$, $I_C = 1\text{A}$	25	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}$, $I_B = 0.1\text{A}$	—	0.6	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 1\text{A}$, $V_{CE} = 2\text{V}$	—	1.3	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 250\text{mA}$, $f = 100\text{MHz}$	3	—	MHz

Note 1. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 1.5\%$.

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:
HISHAM ODISH	1/21/04
CHECKED BY:	DATE:
STEVE FEIWELL	8/18/04
APPROVED BY:	DATE:
JOHN COLE	8/24/04

DRAWING TITLE:			
Transistor, Power, Plastic, TO-126, NPN, 2A			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	BD237	01H0316.DWG	B
SCALE: NTS		U.O.M.: MILLIMETERS	SHEET: 1 OF 1