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REVISIONS			DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 139						
DCP # REV		DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE	
188	1885 A RELEASED		BYF	02/03/06	НО	2/6/06	JWM	2/6/06	

SPC-F005.DWG

# Description:

Medium Power Plastic PNP, TO-126, Silicon Transistor. Designed for driver circuits, switching, and amplifier applications.

## Features:

- Low Saturation Voltage:  $V_{CE(sat)\ 0.6vdc}$   $I_{C}=1A$
- Excellent Power Dissipation Due to Thermopad Construction  $P_{\text{D}}$  = 30 @  $T_{\text{C}}$  = 25°C

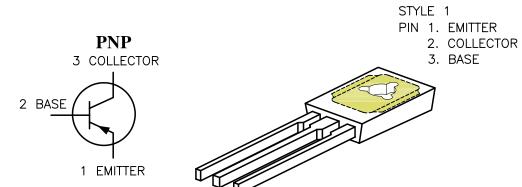
# Absolute Maximum Ratings:

- Collector-Base Voltage,  $V_{CBO} = 80V$
- Collector-Emitter Voltage,  $V_{\text{CEO}} = 80\text{V}$  Emitter-Base Voltage,  $V_{\text{EBO}} = 5\text{V}$  Continuous Collector Current,  $I_{\text{C}} = 1\text{A}$

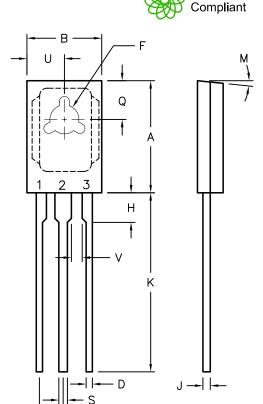
- Base Current,  $I_B = 1A$
- Total Device Dissipation ( $T_C = +25^{\circ}C$ ),  $P_D = 30W$

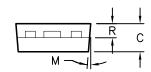
Derate above  $25^{\circ}C = 0.24 \text{mW/}^{\circ}C$ 

- Operating Junction Temperature Range,  $T_J = -65^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature Range,  $T_{sta} = -65^{\circ}\text{C}$  to +150°C



Dim	Min	Max			
A	10.80	11.05			
В	7.49	7.75			
C	2.41	2.67			
D	0.51	0.66			
F	2.92	3.18			
G	2.31	2.46			
Н	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	_			





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:
BASAM YOUSIF	02/03/06
CHECKED BY:	DATE:
HISHAM ODISH	2/6/06
APPROVED BY:	DATE:
JEFE MCVICKER	2/6/06

### DRAWING TITLE:

)6	Me	edium Power Ir	ansistor, Plastic,	Zilicoi	n, PNP,	10-1	26
	SIZE	DWG. NO.		ELEC1	RONIC FIL	E	REV
3	Α	2N4920			H1377.	DWG	Α
	SCALE: NTS		U.O.M.: MILLIMETERS		SHEET:	1 0	F 2

# Electrical Characteristics: ( $T_C$ = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector—Emitter Breakdown Voltage (Note 1)	V <sub>(BR)CEO</sub>	$I_C$ = 100mA, $I_B$ = 0	80	_	V
Collector Cut-Off Current	I <sub>CEX</sub>	$V_{CE} = 80V, V_{EB(off)} = 1.5V$	_	0.1	mA
	I <sub>CEO</sub>	$V_{CB} = 40V, I_{B} = 0$		0.5	mA
Collector Cut-Off Current	$I_{CBO}$	$V_{EB} = 80V, I_{E} = 0$		0.1	mA
Emitter Cut-Off Current	I <sub>EBO</sub>	$V_{EB} = 5V, I_{C} = 0$	_	1	mA
ON Characteristics (Note 1)					
DC Current Gain		$V_{CE} = 1V, I_{C} = 50mA$	40	_	_
	h <sub>FE</sub>	$V_{CE} = 1V$ , $I_{C} = 1500$ mA	30	150	_
		$V_{CE}$ = 1V, $I_{C}$ = 1A	10	ı	_
Collector—Emitter Saturation Voltage	V <sub>CE(sat)</sub>	$I_{C}$ = 1A, $I_{B}$ = 100mA	_	0.6	V
Base—Emitter Saturation Voltage	V <sub>BE(on)</sub>	$I_{C}$ = 1A, $I_{B}$ = 1V		1.3	V
	V <sub>BE(sat)</sub>	$I_C = 1A$ , $I_B = 100$ mA	_	1.3	٧
Small-Signal Characteristics					•
Current Gain—Bandwidth Product	f <sub>T</sub>	$V_{CE}$ = 10V, $I_{C}$ = 250mA, f = 1kHz	3	_	MHz
Output Capacitance	C <sub>obo</sub>	$V_{CB} = 10V$ , $I_{E} = 0$ , $f = 100$ kHz	_	100	рF
Input Impedance	h <sub>ie</sub>	$V_{CE}$ = 10V, $I_{C}$ = 1mA, f = 1kHz	_	_	kOhm
	' 'ie	$V_{CE} = 10V$ , $I_{C} = 10$ mA, $f = 1$ kHz	_	_	kOhm
Small—Signal Current Gain	h <sub>fe</sub>	$V_{CE} = 10V, I_{C} = 250mA, f = 1kHz$	25	_	_

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

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SPC-F005.DWG	DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398	SCAL	E: NTS	U.O.M.: MILLIMETERS	SHEET: 2	OF :	2