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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
1262	A	RELEASED	HO	9/11/02	JWM	9/11/02	DJC	9/11/02
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06

Features:

- High DC Current Gain
- Monolithic construction with built-in Base-Emitter shunt resistor

Absolute Maximum Ratings:

- Collector-Emitter Voltage, V_{CE0} : 60V
- Collector-Base Voltage, V_{CB} : 60V
- Emitter-Base Voltage, V_{EB} : 5V
- Collector Current, I_C :
 - Continuous: 2A
 - Peak: 4A
- Base Current, I_B : 50mA
- Total Power Dissipation ($T_C = +25^\circ\text{C}$), P_C : 50W
 - Derate above $+25^\circ\text{C}$: $0.4\text{W}/^\circ\text{C}$
- Total Power Dissipation ($T_A = +25^\circ\text{C}$), P_C : 2W
 - Derate above $+25^\circ\text{C}$: $0.016\text{W}/^\circ\text{C}$
- Operating Junction Temperature, T_J : $-65^\circ\text{C} \sim +150^\circ\text{C}$
- Storage Temperature Range, T_{stg} : $-65^\circ\text{C} \sim +150^\circ\text{C}$
- Thermal Resistance, Junction-to-Case, R_{thJC} : $2.5^\circ\text{C}/\text{W}$
- Thermal Resistance, Junction-to-Ambient, R_{thJA} : $62.5^\circ\text{C}/\text{W}$

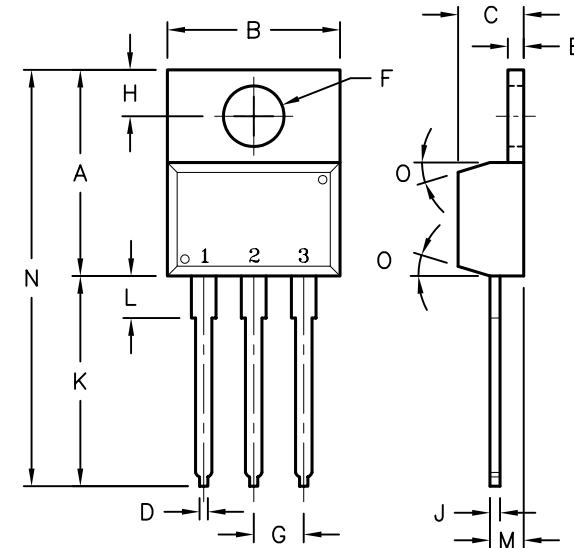
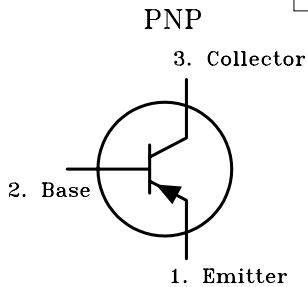


RoHS
Compliant

Description:

A silicon PNP Darlington transistor in a TO-220 case intended for general purpose amplifier and low speed switching applications.

Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	—	1.15	3.75	2.29	2.54	—	12.70	2.80	2.03	—	7°
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	



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

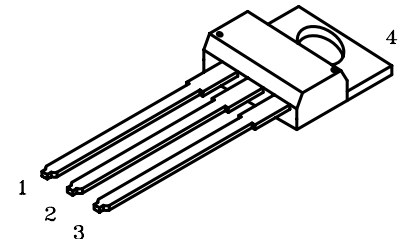
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Sustaining Voltage	$V_{CE0(sus)}$	$I_C = 30\text{mA}$, $I_B = 0$, Note 2	60	—	—	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 30\text{V}$, $I_B = 0$	—	—	2	mA
		$V_{CB} = 60\text{V}$, $I_E = 0$	—	—	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	—	—	2	mA
On Characteristics (Note 2)						
DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}$, $I_C = 1\text{A}$	1000	—	—	—
		$V_{CE} = 4\text{V}$, $I_C = 2\text{A}$	500	—	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2\text{A}$, $I_B = 8\text{mA}$	—	—	2.5	V
Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 4\text{V}$, $I_C = 2\text{A}$	—	—	2.8	V
Dynamic Characteristics						
Small-Signal Current Gain	h_{fe}	$V_{CE} = 10\text{V}$, $I_C = 0.75\text{A}$, $f = 1\text{MHz}$	25	—	—	—
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 0.1\text{MHz}$	—	—	200	pF

Notes:

- $I_C = 1\text{A}$, $L = 100\text{mH}$, P.R.F. = 10Hz , $V_{CC} = 20\text{V}$, $R_{BE} = 100\text{ Ohm}$
- Pulse test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

Pin Configuration

- Base
- Collector
- Emitter
- Collector



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.

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DRAWING TITLE:

Transistor, Bipolar, TO-220, PNP

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TIP115	35C0632.DWG	B
SCALE: NTS		U.O.M.: Millimeters	SHEET: 1 OF 1