

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1262	A	RELEASED	HO	12/27/02	LS	12/27/02	DJC	12/27/02
1885	B	UPDATED TO ROHS COMPLIANT	EO	02/04/06	HO	2/6/06	HO	2/6/06

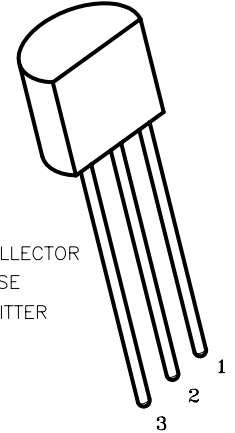
Absolute Maximum Ratings:

- Collector-Base Voltage, $V_{CB0} = 180V$
- Collector-Emitter Voltage, $V_{CE0} = 160V$
- Emitter-Base Voltage, $V_{EB0} = 6V$
- Continuous Collector Current, $I_C = 600mA$
- Total Device Dissipation ($T_A = +25^{\circ}C$), $P_D = 625mW$
Derate above $25^{\circ}C = 5mW/^{\circ}C$
- Total Device Dissipation ($T_C = +25^{\circ}C$), $P_D = 1.5W$
Derate above $25^{\circ}C = 12mW/^{\circ}C$
- Operating Junction Temperature Range, $T_J = -55^{\circ}C \sim +150^{\circ}C$
- Storage Temperature Range, $T_{stg} = -55^{\circ}C \sim +150^{\circ}C$
- Thermal Resistance, Junction to Case, $R_{thJC} = 83.3^{\circ}C/W$
- Thermal Resistance, Junction to Ambient (Note 1), $R_{thJA} = 200^{\circ}C/W$



RoHS
Compliant

DIM.	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H	1.14	1.53
K	12.70	—



- 1 COLLECTOR
- 2 BASE
- 3 EMITTER

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics

Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	180	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1.0mA, I_B = 0$, Note 2	160	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6	—	V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 120V, I_E = 0$	—	50	nA
		$V_{CB} = 120V, I_E = 0, T_A = +100^{\circ}C$	—	50	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	—	50	nA

ON Characteristics (Note 2)

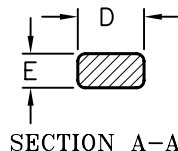
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 1.0mA$	80	—	—
		$V_{CE} = 5V, I_C = 10mA$	80	250	—
		$V_{CE} = 5V, I_C = 50mA$	30	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1.0mA$	—	0.15	V
		$I_C = 50mA, I_B = 5.0mA$	—	0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10mA, I_B = 1.0mA$	—	1	V
		$I_C = 50mA, I_B = 5.0mA$	—	1	V

Small-Signal Characteristics

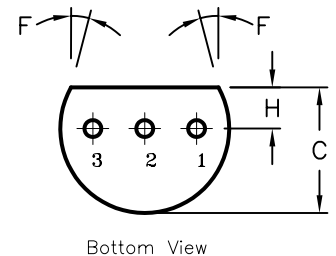
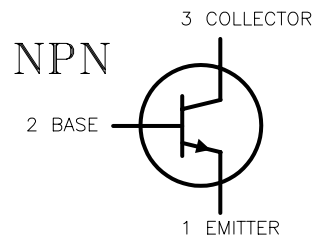
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 10mA, f = 100MHz$	100	300	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	6	pF
Input Capacitance	C_{ibo}	$V_{BE} = 0.5V, I_C = 0, f = 1MHz$	—	20	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 10V, I_C = 1mA, f = 1kHz$	50	200	—
Noise Figure	NF	$V_{CE} = 5V, I_C = 250\mu A, f = 1kHz, R_S = 1k\Omega$	—	8	dB

Notes:

- R_{thJA} is measured with the device soldered into a typical printed circuit board.
- Pulse Test: Pulse Width = $300\mu s$, Duty Cycle = 2%.



SECTION A-A



Bottom View

SPC-F004.DWG

TOLERANCES: UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.	DRAWN BY:	DATE:	DRAWING TITLE:		
	HISHAM ODISH	12/27/02	TRANSISTOR, BIPOLAR, TO-92, NPN		
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE
	LUIS SERBIA	12/27/02	A	2N5551	35C0727.DWG
	APPROVED BY:	DATE:	SCALE: NTS		REV
	DANIEL CAREY	12/27/02	U.O.M.: MILLIMETERS		B
			SHEET: 1 OF 1		

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