

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1447	A	RELEASED	HO	4/23/04	SF	8/3/04	JC	8/4/04
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06



Dimensions	A	B	C	D	E	F	G	H	J	K	L
Min.	8.50	7.74	6.09	0.40	—	2.41	4.82	0.71	0.73	12.70	42*
Max.	9.39	8.50	6.60	0.53	0.88	2.66	5.33	0.86	1.02	—	48*

Description: Transistor, Silicon, NPN, TO-39, Metal, High Current, General Purpose

Absolute Maximum Ratings:

- Collector-Emitter Voltage, $V_{CE0} = 75V$
- Collector-Base Voltage, $V_{CBO} = 100V$
- Emitter-Base Voltage, $V_{EBO} = 7V$
- Continuous Collector Current, $I_C = 2A$
- Base Current, $I_B = 1A$
- Total Power Dissipation ($T_C = +25^\circ C$), $P_D = 10W$
Derate Above $25^\circ C = 0.057nW/^\circ C$
- Operating Junction Temperature Range, $T_J = -65^\circ$ to $+200^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ$ to $+200^\circ C$
- Thermal Resistance, Junction-to-Case, $R_{thJC} = 17.5^\circ C/W$

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	$V_{(BR)CEO}$	$I_C = 100mA, I_B = 0$	75	—	V
Collector Cutoff Current	I_{CEX}	$V_{CE} = 100V, V_{BE} = 1.5V$	—	0.1	mA
		$V_{CE} = 70V, V_{BE} = 1.5V, T_C = +150^\circ C$	—	5	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 7V, I_C = 0$	—	0.1	mA

ON Characteristics

DC Current Gain, Note 1	h_{FE}	$I_C = 500mA, V_{CE} = 4V$	30	130	—
		$I_C = 1A, V_{CE} = 2V$	10	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$	—	0.5	V
Base-Emitter ON Voltage	$V_{BE(on)}$	$I_C = 500mA, V_{CE} = 4V$	—	1.1	V

Small-Signal Characteristics

Small-Signal Current Gain	h_{fe}	$I_C = 50mA, V_{CE} = 4V, f = 10MHz$	5	—	—
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Switching Characteristics

Turn-On Time	t_{on}	$V_{CC} = 30V, I_C = 500mA, I_{B1} = 50mA$	—	80	ns
Turn-Off Time	t_{off}	$V_{CC} = 30V, I_C = 500mA, I_{B1} = I_{B2} = 50mA$	—	800	ns

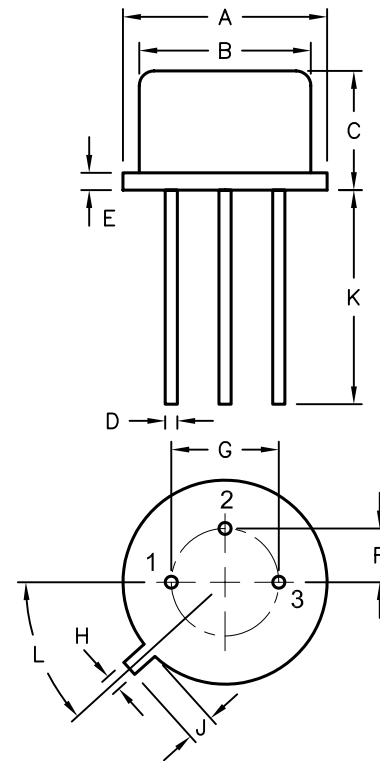
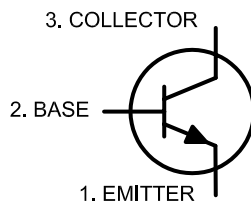
Note 1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

SPC-F004.DWG

TOLERANCES: UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.	DRAWN BY:	DATE:	DRAWING TITLE:			
	HISHAM ODISH	4/23/04	Transistor, General Purpose, NPN, TO-39, Metal			
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE	REV
	STEVE FEIWELL	8/3/04	A	2N5320	35C0721.DWG	B
	APPROVED BY:	DATE:	SCALE: NTS		U.O.M.: Millimeters	
JOHN COLE	8/4/04			SHEET: 1 OF 1		

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NPN



1. EMITTER
2. BASE
3. COLLECTOR

