

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1447	A	RELEASED	HO	1/19/04	JW	2/20/04	JC	2/20/04
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06

Description:

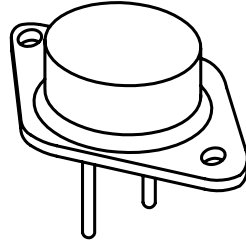
The 2N3055 is a silicon NPN transistors in a TO-3 type package designed for general purpose switching and amplifier applications.

Features:

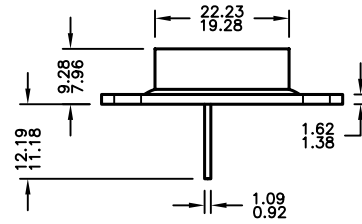
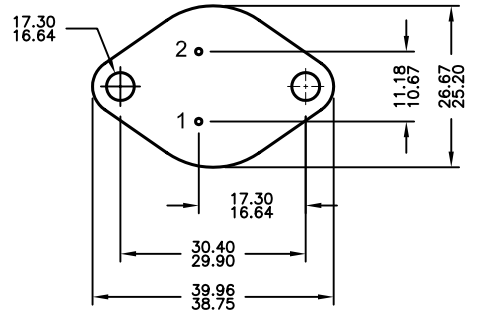
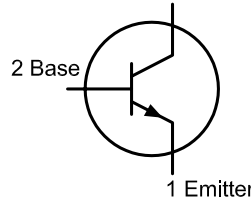
- DC Current Gain: $h_{FE} = 20 - 70 @ I_C = 4A$
- Collector-Emitter Saturation Voltage: $V_{CE(sat)} = 1.1V \text{ Max } @ I_C = 4A$
- Excellent Safe Operating Area

Absolute Maximum Ratings:

- Collector-Base Voltage, $V_{CB} = 100V$
- Collector-Emitter Voltage, $V_{CEO} = 60V$
- Collector-Emitter Voltage, $V_{CER} = 70V$
- Emitter-Base Voltage, $V_{EB} = 7V$
- Continuous Collector Current, $I_C = 15A$
- Base Current, $I_B = 7A$
- Total Device Dissipation ($T_C = +25^\circ C$), $P_D = 115W$
Derate above $25^\circ C = 0.657W/^\circ C$
- Operating Junction Temperature Range, $T_J = -65^\circ \text{ to } +200^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ \text{ to } +200^\circ C$
- Thermal Resistance, Junction-to-Case, $R_{thJC} = 1.52^\circ C/W$



Pin 1 = Base
Pin 2 = Emitter
Collector (Case)


NPN
3 Collector

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
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OFF Characteristics

Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 200mA, I_B = 0, \text{ Note 1}$	60	-	V
	$V_{CER(sus)}$	$I_C = 200mA, R_{BE} = 100 \text{ Ohm}, \text{ Note 1}$	70	-	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 30V, I_B = 0$	-	0.7	mA
	I_{CEX}	$V_{CE} = 100V, V_{BE(off)} = 1.5V$	-	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{CE} = 100V, V_{BE(off)} = 1.5V, T_C = +150^\circ C$	-	5	mA
		$V_{BE} = 7V, I_C = 0$	-	5	mA

ON Characteristics (Note 1)

DC Current Gain	h_{FE}	$V_{CE} = 4V, I_C = 4A$	20	70	-
		$V_{CE} = 4V, I_C = 10A$	5	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 400mA$	-	1.1	V
		$I_C = 10A, I_B = 3.3A$	-	3	V
Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 4V, I_C = 4A$	-	1.5	V

Second Breakdown Characteristics

Second Breakdown Collector Current w/Base Forward Biased	$I_{s/b}$	$V_{CE} = 40V, t = 1s; \text{ Non-repetitive}$	2.87	-	A
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Dynamic Characteristics

Current Gain-Bandwidth Product	f_T	$V_{CE} = 4V, I_C = 1A,$	800	-	kHz
Small-Signal Current Gain	h_{fe}	$V_{CE} = 4V, I_C = 1A, f = 1kHz$	15	120	-
Small-Signal Current Gain Cutoff Frequency	f_{hfe}	$V_{CE} = 4V, I_C = 1A, f = 1kHz$	10	-	-

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	1/19/04	Transistor, Bipolar, Metal, TO-3, NPN			
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE	REV
	JEFF MCVICKER	2/20/04	A	2N3055	35C0700.DWG	B
	APPROVED BY:	DATE:	SCALE: NTS		U.O.M.: Millimeters	
JOHN COLE	2/20/04			SHEET: 1 OF 1		

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