SEME LAB

BCY89

MECHANICAL DATA
Dimensions in mm

4.8 max

5.3 max

12.7 min.

0.51 max
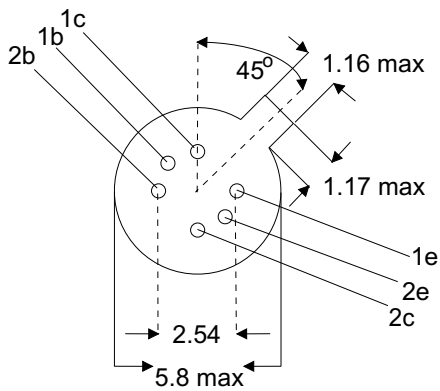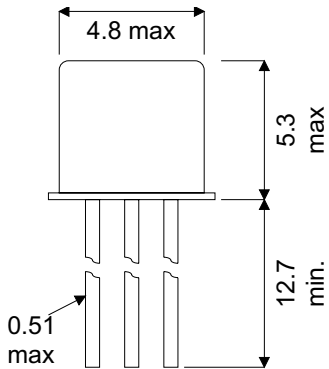
NPN SILICON PLANAR DUAL TRANSISTORS

1c
1b
2b
45°
1.16 max

1.17 max

1e
2e
2c

2.54

5.8 max

TO71 PACKAGE

APPLICATIONS
• **Differential Amplifier**
• **General purpose applications.**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage	45V
V_{CEO}	Collector – Emitter Voltage	40V
P_{TOT}	Total Power Dissipation	150mW
T_J	Junction Temperature	175°C

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-Off Current	V_{CB} = 20V	I_E = 0			10	nA
h_{FE}	DC Current Gain	I_C = 50µA	V_{CB} = 10V	100		450	—
		I_C = 10mA	V_{CB} = 10V	100		600	
f_T	Transistion Frequency	-I_E = 50µA	V_{CB} = 10V	10			MHz
		-I_E = 50µA	V_{CB} = 10V	50			
Cc	Collector-Capacitance at f = 1MHz	I_E = Ie = 0	V_{CB} = 10V			3.5	pF
NF	Noise Figure	I_C = 50µA V_{CE} = 5V f =10Hz to15Hz R_S = 10kΩ				4	dB
		I_C = 50µA V_{CE} = 5V f =200Hz R_S = Opt.				5	

MATCHING CHARACTERISTICS

Parameter		Test Conditions	Unit
$|_{1C}/|_{2C}|$	Ratio of Collector Currents V_{1B-1E} = V_{2B-2E}	V_{1B-1E} = V_{2B-2E}	0.67-1.5
$|V_{1B-1E}-V_{2B-2E}|$	Difference between Base-Emitter Voltages	$|_{1C}$ = $|_{2C}|$	10mV
$||_{1B}-|_{2B}|$	Difference between Base Currents	V_{1B-1E} = V_{2B-2E}	300nA
h_{1FE}/h_{2FE}	D.C. Current Gain Ration	$|_{1C}$ = $|_{2C}|$	—