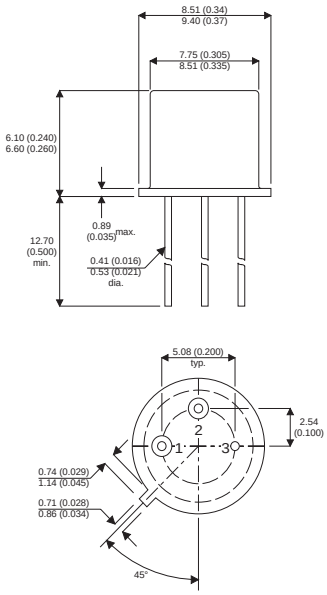
BCY39A

MECHANICAL DATA
Dimensions in mm (inches)



TO39 PACKAGE (TO-205AD)

Underside View

Pin 1 = Emitter Pin 2 = Base Pin 3 = Collector

SMALL SIGNAL PNP TRANSISTORS

APPLICATIONS

Small signal PNP transistors for relay switching resistor logic circuits and general purpose applications.

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

V_{CB}	Collector – Base Voltage	25V
V_{CE}	Collector – Emitter Voltage	25V
V_{EB}	Emitter – Base Voltage	16V
I_{CM}	Collector Current	100mA
$I_{C(AV)}$	Collector Current ave Over any 20ms	30mA
I_{BM}	Base Current	30mA
$I_{B(AV)}$	Base Current ave Over any 20ms	15mW
I_{EM}	Emitter Current	100mA
$I_{E(AV)}$	Emitter Current ave Over any 20ms	65mA
P_{TOT}	Total Power Dissipation	230mW

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Document Number 3080
Issue 1

BCY39A

THERMAL CHARACTERISTICS

	CHARACTERISTICS	
$\theta_{j\text{-amb}}$	Junction to Ambient	0.3°C/mW
$\theta_{j\text{-case}}$	Junction to Case	0.12°C/mW

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current	V_{CB} = -6V	I_E = 0		1	100	nA
		V_{CB} = -6V T_{amb} = 100°C	I_E = 0		0.1	2.5	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = -6V	I_C = 0		1	100	nA
		V_{EB} = -6V T_{amb} = 100°C	I_C = 0		0.1	2.5	µA
h_{FE}	DC Current Gain	I_C = 30mA	V_{CE} = -1V	12	30		—
		I_C = 150mA	V_{CE} = - 1V	10		50	
		I_{CM} = 300mA	V_{CE} = - 6V		15		
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 150mA	I_B = 15mA		-0.46	-1.1	V
V_{BE}	Base – Emitter Voltage	I_C = 150mA	I_B = - 1V		-1.5	-1.9	
I_B	Base – Current	I_E = 150mA	V_{CB} = 0	3		14	mA
NF	Noise Figure	I_C = 500µA f = 1kc/s	V_{CE} = -2V R_S = 500Ω		8		dB
h_{fe}	Small Signal Current Gain	I_C = 10mA f = 1kc/s	V_{CE} = -6V	15	35	100	—
f_T	Transistion Frequency	I_C = 1mA	V_{CE} = -6V	0.45	1.5		MHz

*Pulse Test : Pulse Width < 300µs, Duty Cycle < 2%

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