

NPN SILICON PLANAR EPITAXIAL

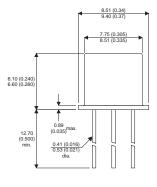
TRANSISTOR IN HERMETICALLY

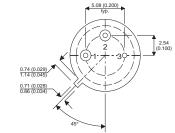
**SEALED METAL CASE** 



## **MECHANICAL DATA**

Dimensions in mm(Inches)





TO39 PACKAGE(TO205AD)

Pin 1 = Emitter

Pin 2 = Base

Pin 3 = Collector

## **ABSOLUTE MAXIMUM RATINGS** (T<sub>case</sub> = 25°C unless otherwise stated)

Base Continous reverse Voltage	60V 7V		
	7V		
s Collector Current			
Maximum Continuous Collector Current			
Maximum Continuous Base Current			
Maximum total Power Dissipation up to T <sub>case</sub> = 25°C			
T <sub>case</sub> = 100°C	15W		
$T_{amb} = 25^{\circ}C$	1W		
<b>;</b>	-65 to +175°C		
	150°C		

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Issue 2



**BUY82** 

## THERMAL CHARACTERISTICS

R <sub>th j-case</sub>	Thermal resistance to case	Max	5.0°C/W
R <sub>th j-amb</sub>	Thermal resistance juntion to ambient	Max	150°C/W

## **ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25°C unless otherwise stated)

	Parameter	Test Conditions			Тур.	Max.	Unit
h	Static value of common-emitter	$V_{CE} = 5V$	I <sub>C</sub> = 1.5A	40			
h <sub>21E</sub>	forward current transfer ratio *	V <sub>CE</sub> = 5v	I <sub>C</sub> = 10A	15			
V <sub>CE(SAT)</sub>	Collector-Emitter Saturation Voltage*	I <sub>C</sub> = 10A	I <sub>B</sub> = 1A			1.0	V
		I <sub>C</sub> = 1.5A	I <sub>B</sub> = 150mA			0.8	
V <sub>BE(SAT)</sub>	Base - Emitter Saturation Voltage*	I <sub>C</sub> = 10A	I <sub>B</sub> = 1.0A			1.8	
		I <sub>C</sub> = 1.5A	I <sub>B</sub> = 150mA			1.2	
I <sub>CBO</sub>	Collector - Base Cut-off Current	V <sub>CB</sub> = 100V	I <sub>E</sub> = 0			10	μΑ
			T <sub>Case</sub> = 150°C			500	
I <sub>EBO</sub>	Emitter - Base Cut-off Current	$V_{EB} = 5V$	I <sub>C</sub> = 0			10	
_	Turn on time	I <sub>C</sub> = 5A	I <sub>B1</sub> = 0.5A			1	μs
t <sub>on</sub>	rum on time	I <sub>C</sub> = 10A	I <sub>B1</sub> = 1A			1.5	
+	Turn off time	I <sub>C</sub> = 5A	$I_{B1} = -I_{B2} = 0.5A$			1	
t <sub>off</sub>		I <sub>C</sub> = 10A	$I_{B1} = -I_{B2} = 1A$			1	
C <sub>22b</sub>	Output capacitance	V <sub>CB</sub> = 10V	I <sub>E</sub> = 0			200	- pF
		f =1MHz					
C <sub>11b</sub>	Input capacitance	V <sub>EB</sub> = 0.5V	I <sub>C</sub> = 0			850	
		f =1MHz				030	
f <sub>T</sub>	Transition Frequency	V <sub>CE</sub> = 10V	I <sub>C</sub> = 100mA	40			MHz
		f = 20MHz					

<sup>\*</sup> Measured under pulse conditions: Pulse length = 300 ms, duty cycle = 1.5%

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