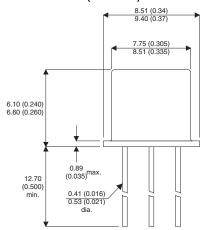
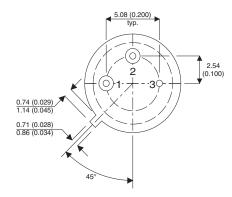




MECHANICAL DATA

Dimensions in mm (inches)





TO39 (TO205AD) Package

PIN 1 - Emitter

PIN 2 - Base

PIN 3 - Case

SILICON EPITAXIAL PNP TRANSISTOR

General-Purpose types for Switching and Linear-Amplifier Applications

FEATURES

- Low saturation voltages
- Maximum Safe area of operation curves
- · High gain at high current
- High breakdown voltages

The 2N5781 is intended for medium-power switching and complementary-symmetry audio amplifier applications.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

$\overline{V_{CBO}}$	Collector – Base Voltage	-80V		
$V_{CER(BR)}$	Collector – Emitter Breakdown Voltage $R_{BE} = 100\Omega$	-80V		
V _{CEO(BR)}	Collector – Emitter Breakdown Voltage	-65V		
V _{EBO}	Emitter – Base Voltage	-5V		
$I_{\mathbb{C}}$	Continuous Collector Current	-3.5A		
I _B	Continuous Base Current	-1A		
P_{T}	Total Device Dissipation At Case Temperatures up to = 25°C	10W		
	At Ambient Temperatures up to = 25° C	1W		
T_J , T_STG	Operating Junction and Storage Temperature Range	−65 to +200°C		

Semelab PIc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

	Parameter	Test Conditions	Min.	Тур.	Max.	Unit	
I _{CER}	Collector Cut-off Current	V _{CE} = -65V				- 10	μА
		$R_{BE} = 100\Omega$	T _C = 150°C			- 1.0	mA
I _{CEX}	Collector Cut-off Current	V _{CE} = - 75V	V _{BE} = -1.5V			- 10	μΑ
		$R_{BE} = 100\Omega$	T _C = 150°C			- 1.0	mA
I _{CEO}	Collector Cut-off Current	V _{CE} = -50V	I _B = 0			- 100	μΑ
I _{EBO}	Emitter Cut-off Current	V _{BE} = - 5V	I _C = 0			- 10	μΑ
h _{FE*}	DC Current Gain	V _{CE} = -2V	I _C = -1.0A	20		100	
		V _{CE} = -2V	I _C = -3.2A	4			
V _{CEO(BR)*}	Collector – Emitter Breakdown Voltage	I _C =- 10mA	I _B = 0	- 65			V
V _{CER(BR)*}	Collector – Emitter Breakdown Voltage	I _C = -10mA	$R_{BE} = 100\Omega$	- 80			
V _{BE}	Base – Emitter Voltage	V _{CE} = -2V	I _C = -1.0A			- 1.5	V
V _{CE(sat)}	Collector – Emitter Saturation Voltage	I _C = -1.0A	I _B = - 0.1A			- 0.5	
f _T	Transition Frequency	V _{CE} = - 2V	I _C = - 0.1A	8		60	MHz
		f = 4MHz				80	1411 12
h _{fe}	Small Signal Common – Emitter	V _{CE} = -2V	$I_C = -0.1 \text{mA}$	25			_
	Current Gain	f = 1.0kHz					
t _{ON}	Saturated Switching Time	V _{CC} = -30V	$I_{B1} = I_{B2}$			0.5	116
t _{OFF}	Turn-off Time	I _C = -1.0A	I _B = - 0.1A			2.5	- μs
$R_{\theta JC}$	Thermal Resistance Junction – Case					17.5	°C/W
$R_{\theta JA}$	Thermal Resistance Junction – Ambient					175	C/VV

NOTES

1. * Pulse Test: t_p = 300 μ s, δ = 1.8%.

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Document Number 6659 Issue 1