2N5781



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.

ABSOLUT	Έ	MA	XI	MUM	RATING	S ($T_A = 25^{\circ}C$ unless otherwise stated)
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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 _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 Plc 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 ($T_C = 25^{\circ}C$ unless otherwise stated)

	Parameter	Test Conditions	Min.	Тур.	Max.	Unit		
I _{CER}	Collector Cut-off Current	$V_{CE} = -65V$				- 10	μA	
	Collector Cut-on Cutrent	R _{BE} = 100Ω	T _C = 150°C			- 1.0	mA	
	Collector Cut-off Current	V _{CE} = - 75V	V _{BE} = -1.5V			- 10	μA	
'CEX	Collector Cut-on Cutrent	R _{BE} = 100Ω	T _C = 150°C			- 1.0	mA	
I _{CEO}	Collector Cut-off Current	$V_{CE} = -50V$	I _B = 0			- 100	μA	
I _{EBO}	Emitter Cut-off Current	V _{BE} = - 5V	$I_{\rm C} = 0$			- 10	μA	
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} = 100Ω	- 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	v	
fT	Transition Frequency	$V_{CE} = -2V$	I _C = - 0.1A	0		60	MHz	
		f = 4MHz						
h _{fe}	Small Signal Common – Emitter	$V_{CE} = -2V$	I _C = -0.1mA	25			—	
	Current Gain	f = 1.0kHz		25				
t _{ON}	Saturated Switching Time	V _{CC} = -30V	$I_{B1} = I_{B2}$			0.5		
t _{OFF}	Turn-off Time	I _C = -1.0A	I _B = - 0.1A			2.5	μο	
$R_{\theta JC}$	Thermal Resistance Junction – Case			17.5	7.5 75 °C/W			
$R_{ extsf{ heta}JA}$	Thermal Resistance Junction – Ambient			175				

NOTES

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

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