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Manufacturers of World Class Discrete Semiconductors

2N2917

NPN SILICON
DUAL TRANSISTOR

JEDEC TO-78 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2917 is a silicon NPN dual transistor utilizing two individual chips mounted in a hermetically sealed metal case designed for differential amplifier applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	<u>SYMBOL</u>		<u>UNITS</u>
Collector-Base Voltage	V_{CB0}	45	V
Collector-Emitter Voltage	V_{CE0}	45	V
Emitter-Base Voltage	V_{EB0}	6.0	V
Collector Current	I_C	30	mA
Power Dissipation (One Die)	P_D	300	mW
Power Dissipation (Both Dice)	P_D	500	mW
Power Dissipation (One Die, $T_C=25^\circ\text{C}$)	P_D	750	mW
Power Dissipation (Both Dice, $T_C=25^\circ\text{C}$)	P_D	1500	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
I_{CBO}	$V_{CB}=45\text{V}$		10	nA
I_{CEO}	$V_{CE}=45\text{V}$		2.0	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		2.0	nA
BV_{CB0}	$I_C=10\mu\text{A}$	45		V
BV_{CE0}	$I_C=10\text{mA}$	45		V
BV_{EB0}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(s)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$		0.35	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$		0.7	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}, T_A=-55^\circ\text{C}$	15		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	100		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	150		
f_T	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	60		Mhz

(OVER)

ELECTRICAL CHARACTERISTICS (cont.) ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
C_{ob}	$V_{CB}=5.0\text{V}$, $I_E=0$, $f=140\text{kHz}$		6.0	pF
NF	$V_{CE}=5.0\text{V}$, $I_C=10\mu\text{A}$, $R_S=10\text{k}\Omega$, $f=1.0\text{kHz}$, $BW=200\text{Hz}$		4.0	dB
h_{FE1}/h_{FE2}	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$	0.8	1.0	
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0\text{V}$, $I_C=10\mu\text{A}$		10	mV
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$		5.0	mV
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0\text{V}$, $I_C=1.0\text{mA}$		10	mV
$\Delta(V_{BE1}-V_{BE2})$	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $T_A=-55^{\circ}\text{C}$ to $+25^{\circ}\text{C}$		1.6	mV
$\Delta(V_{BE1}-V_{BE2})$	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $T_A=+25^{\circ}\text{C}$ to $+125^{\circ}\text{C}$		2.0	mV

TO-78 MECHANICAL OUTLINE

All Dimensions in inches (mm).

