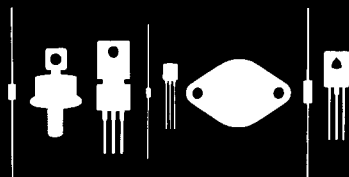


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145 Adams Avenue
Hauppauge, New York 11788



2N5961
2N5962
2N5963

NPN SILICON TRANSISTOR

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5961 Series types are Epoxy Molded Silicon NPN Transistors manufactured by the epitaxial Planar Process designed for applications requiring extremely high gain (h_{FE}) and low noise.

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

	SYMBOL	2N5961	2N5962	2N5963	UNIT
Collector-Base Voltage	V_{CB0}	60	45	30	V
Collector-Emitter Voltage	V_{CE0}	60	45	30	V
Emitter-Base Voltage	V_{EB0}		8.0		V
Collector Current	I_C		50		mA
Power Dissipation	P_D		625		mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D		1500		mW
Operating and Storage Junction Temperature	T_J, T_{STG}		-65 TO +150		$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	2N5961		2N5962		2N5963		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=\text{Rated } V_{CB0}$		2.0		2.0		2.0	nA
I_{CB0}	$V_{CB}=\text{Rated } V_{CB0}, T_A=65^\circ\text{C}$		50		50		50	nA
I_{EB0}	$V_{EB}=5.0\text{V}$		1.0		1.0		1.0	nA
BV_{CB0}	$I_C=10\mu\text{A}$	60		45		30		V
BV_{CE0}	$I_C=5.0\text{mA}$	60		45		30		V
BV_{EB0}	$I_C=10\mu\text{A}$	8.0		8.0		8.0		V
$V_{CE}(\text{SAT})$	$I_C=10\text{mA}, I_B=0.5\text{mA}, \text{PW}=300\mu\text{s}$		0.2		0.2		0.2	V
$V_{BE}(\text{ON})$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	0.5	0.7	0.5	0.7	0.5	0.7	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	100		450		900		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	120		500		1000		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	135		550		1200		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	150	700	600	1400	1200	2200	
h_{fe}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	150	1000	600	2000	1200	3000	
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		100		150		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0$		4.0		4.0		4.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0$		6.0		6.0		6.0	pF
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=1.0\text{k}\Omega, \text{BW}=400\text{Hz}, f=1.0\text{kHz}$		6.0		6.0		6.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=10\text{k}\Omega, \text{BW}=400\text{Hz}, f=1.0\text{kHz}$		-		4.0		3.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=100\text{k}\Omega, \text{BW}=400\text{Hz}, f=1.0\text{kHz}$		-		8.0		6.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}, R_S=10\text{k}\Omega, \text{BW}=400\text{Hz}, f=1.0\text{kHz}$		3.0		3.0		3.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=1.0\text{k}\Omega, \text{BW}=10\text{Hz}, f=10\text{Hz}$		-		-		8.0	dB
*NF	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}, R_S=1.0\text{k}\Omega, \text{BW}=15.7\text{kHz}, f=10\text{Hz to } 10\text{kHz}$		3.0		3.0		3.0	dB

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*WIDE BAND NOISE FIGURE