

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N4928
2N4929
2N4930
2N4931

PNP SILICON TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N4928 series types are PNP Silicon Transistors designed for general purpose applications.

MAXIMUM RATINGS (T_A = 25°C)

	SYMBOL	2N4928	2N4929	2N4930	2N4931	UNITS
Collector-Base Voltage	V _{CB0}	100	150	200	250	V
Collector-Emitter Voltage	V _{CEO}	100	150	200	250	V
Emitter-Base Voltage	V _{EBO}			4.0		V
Collector Current	I _C			500		mA
Power Dissipation	P _D			1.0		W
Power Dissipation (T _C = 25°C)	P _D			5.0		W
Operating and Storage						
Junction Temperature	T _J , T _{stg}		-65 to +200			°C
Thermal Resistance	Q _{JA}			175		°C/W
Thermal Resistance	Q _{JC}			35		°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CB0}	V _{CB} = 50V (2N4928)		0.5	μA
I _{CB0}	V _{CB} = 75V (2N4929)		0.5	μA
I _{CB0}	V _{CB} = 150V (2N4930, 2N4931)		1.0	μA
I _{EBO}	V _{BE} = 3.0V (2N4928, 2N4929)		0.5	μA
I _{EBO}	V _{BE} = 3.0V (2N4930, 2N4931)		1.0	μA
BV _{CB0}	I _C = 100μA (2N4928)	100		V
BV _{CB0}	I _C = 100μA (2N4929)	150		V
BV _{CB0}	I _C = 100μA (2N4930)	200		V
BV _{CB0}	I _C = 100μA (2N4931)	250		V
BV _{CEO}	I _C = 10mA (2N4928)	100		V
BV _{CEO}	I _C = 10mA (2N4929)	150		V
BV _{CEO}	I _C = 10mA (2N4930)	200		V
BV _{CEO}	I _C = 10mA (2N4931)	250		V
BV _{EBO}	I _C = 100μA	4.0		V
V _{CE(SAT)}	I _C = 10mA, I _B = 1.0mA (2N4928, 2N4929)		0.5	V
V _{CE(SAT)}	I _C = 10mA, I _B = 1.0mA (2N4930, 2N4931)		5.0	V
V _{BE(ON)}	V _{CE} = 10V, I _C = 10mA		1.0	V

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
h_{FE}	$V_{CE} = 10V, I_C = 1.0mA$	20		
h_{FE}	$V_{CE} = 10V, I_C = 10mA$ (2N4928, 2N4929)	25	200	
h_{FE}	$V_{CE} = 10V, I_C = 10mA$ (2N4930, 2N4931)	20	200	
h_{FE}	$V_{CE} = 10V, I_C = 50mA$ (2N4928, 2N4929)	20		
h_{FE}	$V_{CE} = 10V, I_C = 30mA$ (2N4930, 2N4931)	20		
f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$ (2N4928, 2N4929)	100	1000	MHz
f_T	$V_{CE} = 20V, I_C = 20mA, f = 20MHz$ (2N4930, 2N4931)	20	200	MHz
C_{cb}	$V_{CB} = 20V, I_E = 0, f = 140kHz$ (2N4928)		6.0	pF
C_{cb}	$V_{CB} = 20V, I_E = 0, f = 140kHz$ (2N4929)		10	pF
C_{cb}	$V_{CB} = 20V, I_E = 0, f = 140kHz$ (2N4930, 2N4931)		20	pF
C_{eb}	$V_{BE} = 2.0V, I_C = 0, f = 140kHz$ (2N4928)		40	pF
C_{eb}	$V_{BE} = 1.0V, I_C = 0, f = 140kHz$ (2N4929)		80	pF
C_{eb}	$V_{BE} = 0.5V, I_C = 0, f = 140kHz$ (2N4930, 2N4931)		400	pF



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