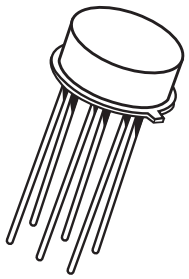
2N2920

NPN SILICON
DUAL TRANSISTORS

Central™
Semiconductor Corp.



JEDEC TO-78 CASE

DESCRIPTION:
The CENTRAL SEMICONDUCTOR 2N2920 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°C)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	30	mA
Power Dissipation (One Die)	P_D	300	mW
Power Dissipation (Both Die)	P_D	500	mW
Power Dissipation (One Die, T_C=25°C)	P_D	750	mW
Power Dissipation (Both Die, T_C=25°C)	P_D	1500	mW
Operating and Storage Junction Temperature	T_J,T_{stg}	-65 to +200	°C

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	V_{CB}=45V		2.0	nA
I_{CEO}	V_{CE}=5.0V		2.0	nA
I_{EBO}	V_{EB}=5.0V		2.0	nA
BV_{CBO}	I_C=10μA	60		V
BV_{CEO}	I_C=10mA	60		V
BV_{EBO}	I_E=10μA	6.0		V
$V_{CE(SAT)}$	I_C=1.0mA, I_B=0.1mA		0.35	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=100μA		0.70	V
h_{FE}	V_{CE}=5.0V, I_C=10μA	150	600	
h_{FE}	V_{CE}=5.0V, I_C=10μA, T_A= -55°C	40		
h_{FE}	V_{CE}=5.0V, I_C=100μA	225		
h_{FE}	V_{CE}=5.0V, I_C=1.0mA	300		
f_T	V_{CE}=5.0V, I_C=500μA, f=20MHz	60		MHz

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ELECTRICAL CHARACTERISTICS PER TRANSISTOR (continued): (T_A=25°C unless otherwise noted)

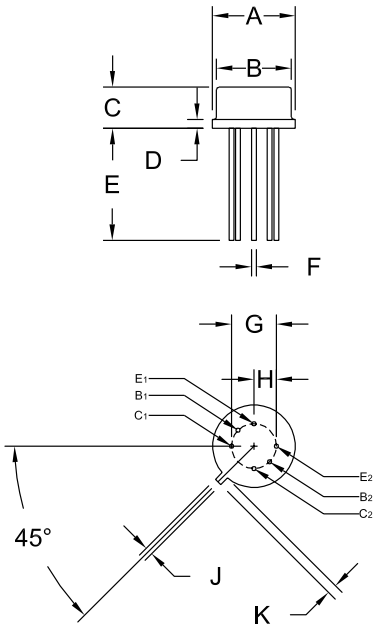
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
C_{ob}	V_{CB}=5.0V, I_E=0, f=140kHz		6.0	pF
NF	V_{CE}=5.0V, I_C=10μA, R_S=10kΩ f=1.0kHz, BW=200Hz		3.0	dB

MATCHING CHARACTERISTICS:

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE1}/h_{FE2}*	V_{CE}=5.0V, I_C=100μA	0.9	1.0	
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=10μA		5.0	mV
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=100μA		3.0	mV
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=1.0mA		5.0	mV
$\Delta(V_{BE1}-V_{BE2})$	V_{CE}=5.0V, I_C=100μA, T_A= -55°C to +25°C		0.8	mV
$\Delta(V_{BE1}-V_{BE2})$	V_{CE}=5.0V, I_C=100μA, T_A= +25°C to +125°C		1.0	mV

* The lowest h_{FE} reading is taken as h_{FE1}

JEDEC TO-78 CASE - MECHANICAL OUTLINE



R1

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.305	0.335	7.75	8.51
C	0.150	0.185	3.81	4.70
D	-	0.040	-	1.02
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G	0.200		5.08	
H	0.100		2.54	
J	0.028	0.034	0.71	0.86
K	0.029	0.045	0.74	1.14

TO-78 (REV: R1)

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