

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors
www.centralsemi.com

2N5209
2N5210

NPN SILICON TRANSISTOR

TO-92 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5209 and 2N5210 are silicon NPN Transistors, manufactured by the epitaxial planar process, designed for applications requiring high gain and low noise.

MAXIMUM RATINGS (T_A=25°C)

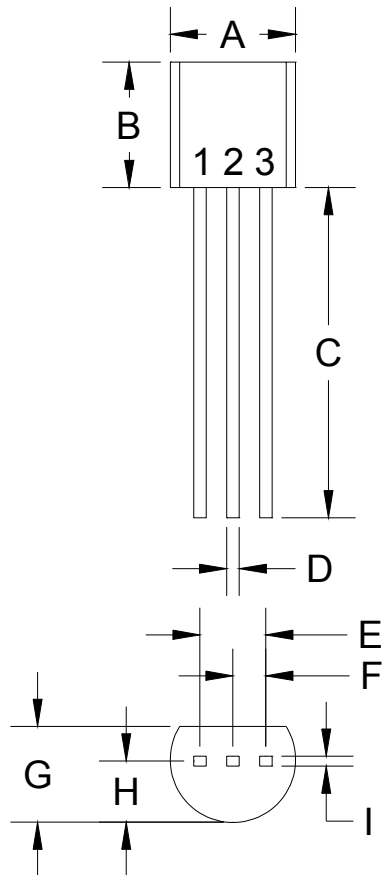
	SYMBOL		UNITS
Collector-Emitter Voltage	V _{CEO}	50	V
Collector-Base Voltage	V _{CBO}	50	V
Emitter-Base Voltage	V _{EBO}	4.5	V
Collector Current	I _C	50	mA
Power Dissipation	P _D	350	mW
Power Dissipation (T _C =25°C)	P _D	1.0	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W
Thermal Resistance	θ _{JC}	125	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C)

SYMBOL	TEST CONDITIONS	2N5209		2N5210		UNITS
		MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} =35V		50		50	nA
I _{EBO}	V _{EB} =3.0V		50		50	nA
BV _{CBO}	I _C =100μA	50		50		V
BV _{CEO}	I _C =1.0mA	50		50		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.70		0.70	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =1.0mA		0.85		0.85	V
h _{FE}	V _{CE} =5.0V, I _C =100μA	100	300	200	600	
h _{FE}	V _{CE} =5.0V, I _C =1.0mA	150		250		
h _{FE}	V _{CE} =5.0V, I _C =10mA	150		250		
f _T	V _{CE} =5.0V, I _C =500μA, f=20MHz	30		30		MHz
C _{cb}	V _{CB} =5.0V, I _E =0, f=100kHz		4.0		4.0	pF
h _{fe}	V _{CE} =5.0V, I _C =1.0mA, f=1.0kHz	150	600	250	900	
NF	V _{CE} =5.0V, I _C =20μA, R _S =22kΩ, f=10Hz to 15.7kHz		3.0		2.0	dB
NF	V _{CE} =5.0V, I _C =20μA, R _S =10kΩ, f=1.0kHz		4.0		3.0	dB

(SEE REVERSE SIDE)

TO-92 PACKAGE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

Lead Code: 1) Emitter
2) Base
3) Collector

R1

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OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CONTACT US

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