

CentralTM Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N3903
2N3904

NPN SILICON TRANSISTOR

JEDEC TO-92 CASE



DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3903, 2N3904 types are molded epoxy Silicon NPN Transistors designed for general purpose amplifier and switching applications. The PNP complementary types are 2N3905, 2N3906.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNIT
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current	I _C	200	mA
Power Dissipation	P _D	625	mW
Operating & Storage Junction Temperature	T _J , T _{stg}	-55 TO +150	°C
Thermal Resistance	θ _{JA}	0.357	°C/mW

ELECTRICAL CHARACTERISTICS (T_A=25°C)

SYMBOL	TEST CONDITIONS	2N3903		2N3904		UNIT
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =30V, V _{BE} (off)=3.0V		50		50	nA
BV _{CB0}	I _C =10μA	60		60		V
BV _{CEO}	I _C =1.0mA	40		40		V
BV _{EBO}	I _E =10μA	6.0		6.0		V
V _{CE} (SAT)	I _C =10mA, I _B =1.0mA		0.2		0.2	V
V _{CE} (SAT)	I _C =50mA, I _B =5.0mA		0.3		0.3	V
V _{BE} (SAT)	I _C =10mA, I _B =1.0mA	0.65	0.85	0.65	0.85	V
V _{BE} (SAT)	I _C =50mA, I _B =5.0mA		0.95		0.95	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	20		40		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	35		70		
h _{FE}	V _{CE} =1.0V, I _C =10mA	50	150	100	300	
h _{FE}	V _{CE} =1.0V, I _C =50mA	30		60		
h _{FE}	V _{CE} =1.0V, I _C =100mA	15		30		
h _{fe}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	50	200	100	400	
f _T	V _{CE} =20V, I _C =10mA, f=100MHz	250		300		MHz
C _{ob}	V _{CB} =5.0V, f=100kHz		4.0		4.0	pF
C _{ib}	V _{BE} =0.5V, f=100kHz		8.0		8.0	pF
NF	V _{CE} =5.0V, I _C =100μA, R _S =1.0KΩ f=10Hz TO 15.7kHz		6.0		5.0	dB
t _{off}	V _{CC} =3.0V, I _C =10mA, I _{B1} =I _{B2} =1.0mA		225		250	ns
t _{on}	V _{CC} =3.0V, V _{BE} (OFF)=0.5V, I _C =10mA I _{B1} =1.0mA		70		70	ns