

CMXT3904

**SURFACE MOUNT SILICON
DUAL NPN TRANSISTORS**



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXT3904 is a dual NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, and designed for small signal general purpose amplifier and switching applications.



SOT-26 CASE

MARKING CODE: X1A

MAXIMUM RATINGS: (T _A =25°C)	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Continuous Collector Current	I _C	200	mA
Power Dissipation	P _D	350	mW
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CEV}	V _{CE} =30V, V _{EB} =3.0V		50	nA
BV _{CBO}	I _C =10μA	60		V
BV _{CEO}	I _C =1.0mA	40		V
BV _{EBO}	I _E =10μA	6.0		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.20	V
V _{CE(SAT)}	I _C =50mA, I _B =5.0mA		0.30	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA	0.65	0.85	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		0.95	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	40		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	70		
h _{FE}	V _{CE} =1.0V, I _C =10mA	100	300	
h _{FE}	V _{CE} =1.0V, I _C =50mA	60		
h _{FE}	V _{CE} =1.0V, I _C =100mA	30		
f _T	V _{CE} =20V, I _C =10mA, f=100MHz	300		MHz
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz		4.0	pF
C _{ib}	V _{BE} =0.5V, I _C =0, f=1.0MHz		12	pF
h _{ie}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	1.0	10	kΩ

R4 (25-September 2018)

CMXT3904

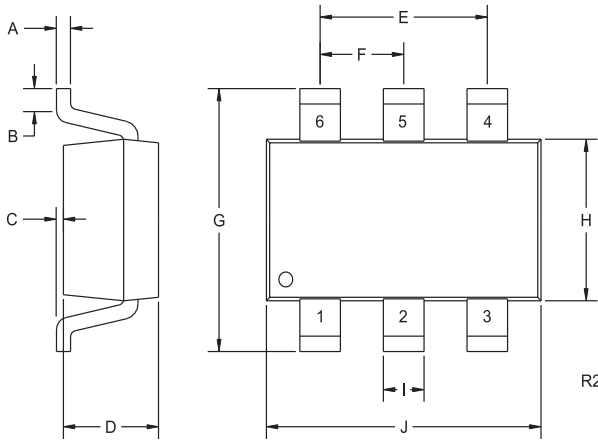
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DUAL NPN TRANSISTORS**



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

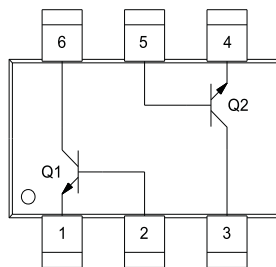
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{re}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	0.5	8.0	$\times 10^{-4}$
h_{fe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	100	400	
h_{oe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	40	μS
NF	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $R_S=1.0\text{k}\Omega$, $f=10\text{Hz}$ to 15.7kHz		5.0	dB
t_d	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	ns
t_r	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	ns
t_s	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		200	ns
t_f	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		50	ns

SOT-26 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	0.004	-	0.10
D	0.039	0.047	1.00	1.20
E	0.074	0.075	1.88	1.92
F	0.037	0.038	0.93	0.97
G	0.102	0.118	2.60	3.00
H	0.059	0.067	1.50	1.70
I	0.016		0.41	
J	0.110	0.118	2.80	3.00

SOT-26 (REV: R2)



LEAD CODE:

- 1) Emitter Q1
- 2) Base Q1
- 3) Collector Q2
- 4) Emitter Q2
- 5) Base Q2
- 6) Collector Q1

MARKING CODE: X1A

R4 (25-September 2018)

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

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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