



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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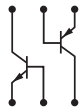
CMXT3946

**SURFACE MOUNT
DUAL COMPLEMENTARY
SILICON TRANSISTORS**



www.centrasemi.com

SUPERmini™



SOT-26 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXT3946 type is a dual complementary silicon transistor manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ surface mount package, and designed for small signal general purpose and switching applications.

MARKING CODE: X46

MAXIMUM RATINGS: (T_A=25°C)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	NPN	PNP	UNITS
V _{CB0}	60	40	V
V _{CEO}	40	40	V
V _{EBO}	6.0	5.0	V
I _C		200	mA
P _D		350	mW
T _J , T _{stg}		-65 to +150	°C
θ _{JA}		357	°C/W

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

SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =30V, V _{EB} =3.0V	-	50	-	50	nA
BV _{CB0}	I _C =10μA	60	-	40	-	V
BV _{CEO}	I _C =1.0mA	40	-	40	-	V
BV _{EBO}	I _E =10μA	6.0	-	5.0	-	V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA	-	0.20	-	0.25	V
V _{CE(SAT)}	I _C =50mA, I _B =5.0mA	-	0.30	-	0.40	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	40	-	60	-	
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	70	-	80	-	
h _{FE}	V _{CE} =1.0V, I _C =10mA	100	300	100	300	
h _{FE}	V _{CE} =1.0V, I _C =50mA	60	-	60	-	
h _{FE}	V _{CE} =1.0V, I _C =100mA	30	-	30	-	
f _T	V _{CE} =20V, I _C =10mA, f=100MHz	300	-	250	-	MHz
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz	-	4.0	-	4.5	pF
C _{ib}	V _{BE} =0.5V, I _C =0, f=1.0MHz	-	8.0	-	10	pF
h _{ie}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	1.0	10	2.0	12	kΩ
h _{re}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	0.5	8.0	0.1	10	x10 ⁻⁴

R3 (12-February 2010)

CMXT3946

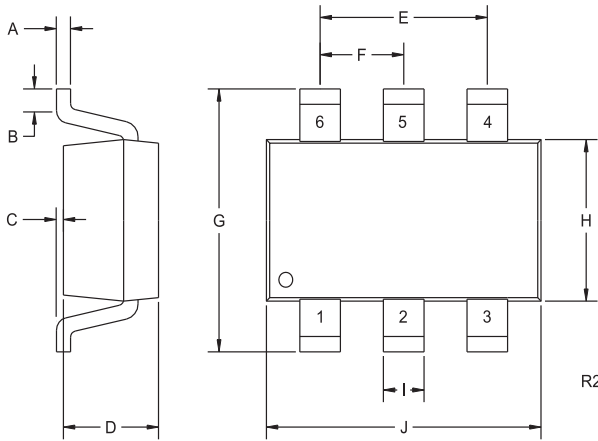
**SURFACE MOUNT
DUAL COMPLEMENTARY
SILICON TRANSISTORS**



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

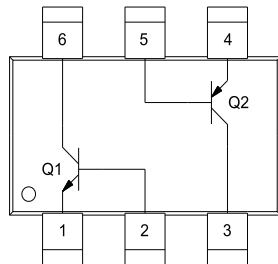
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
h_{fe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	100	400	100	400	
h_{oe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	40	3.0	60	μS
NF	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $R_S=1.0\text{k}\Omega$, $f=10\text{Hz}$ to 15.7kHz	-	5.0	-	4.0	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	-	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	-	35	ns
t_s	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$	-	200	-	225	ns
t_f	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$	-	50	-	75	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: X46

R3 (12-February 2010)

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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