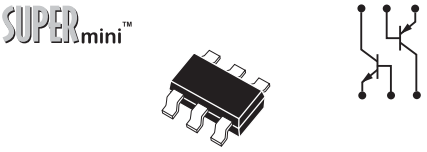
CMXT3946

SURFACE MOUNT
SUPERmini™
DUAL COMPLEMENTARY
SILICON TRANSISTOR



SOT-26 CASE

Central™
Semiconductor Corp.

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, designed for small signal general purpose and switching applications.

MARKING CODE: X46

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL	NPN	PNP	UNITS
Collector-Base Voltage	V_{CBO}	60	40	V
Collector-Emitter Voltage	V_{CEO}	40	40	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
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)

		NPN		PNP		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNITS
I_{CEV}	V_{CE}=30V, V_{EB}=3.0V		50		50	nA
BV_{CBO}	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	$x10^{-4}$
h_{fe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	100	400	100	400	
h_{oe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	1.0	40	3.0	60	μmhos
NF	V_{CE}=5.0V, I_C=100μA, R_S=1.0kΩ f=10Hz to 15.7kHz		5.0		4.0	dB
t_d	V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA		35		35	ns
t_r	V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA		35		35	ns
t_s	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		200		225	ns
t_f	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		50		75	ns

R2 (06-August 2003)

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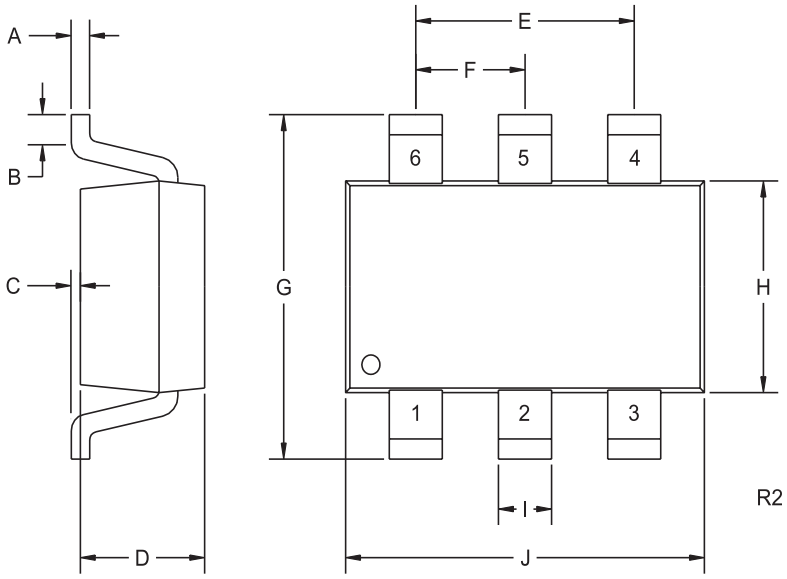
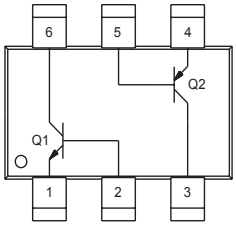
SOT-26 CASE - MECHANICAL OUTLINE





DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

R2 (06-August 2003)

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