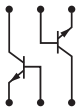
CMXT2222A

SURFACE MOUNT
DUAL NPN
SILICON TRANSISTORS

SUPERmini™



SOT-26 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXT2222A type is a dual NPN 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: X1P

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	600	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_{CBO}	V_{CB}=60V		10	nA
I_{CBO}	V_{CB}=60V, T_A=125°C		10	µA
I_{CEV}	V_{CE}=60V, V_{EB}=3.0V		10	nA
I_{EBO}	V_{EB}=3.0V		10	nA
BV_{CBO}	I_C=10µA	75		V
BV_{CEO}	I_C=10mA	40		V
BV_{EBO}	I_E=10µA	6.0		V
$V_{CE(SAT)}$	I_C=150mA, I_B=15mA		0.3	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		1.0	V
$V_{BE(SAT)}$	I_C=150mA, I_B=15mA	0.6	1.2	V
$V_{BE(SAT)}$	I_C=500mA, I_B=50mA		2.0	V
h_{FE}	V_{CE}=10V, I_C=0.1mA	35		
h_{FE}	V_{CE}=10V, I_C=1.0mA	50		
h_{FE}	V_{CE}=10V, I_C=10mA	75		
h_{FE}	V_{CE}=10V, I_C=150mA	100	300	
h_{FE}	V_{CE}=1.0V, I_C=150mA	50		
h_{FE}	V_{CE}=10V, I_C=500mA	40		
f_T	V_{CE}=20V, I_C=20mA, f=100MHz	300		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		8.0	pF
C_{ib}	V_{EB}=0.5V, I_C=0, f=1.0MHz		25	pF
h_{ie}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	2.0	8.0	kΩ
h_{ie}	V_{CE}=10V, I_C=10mA, f=1.0kHz	0.25	1.25	kΩ

R3 (12-February 2010)

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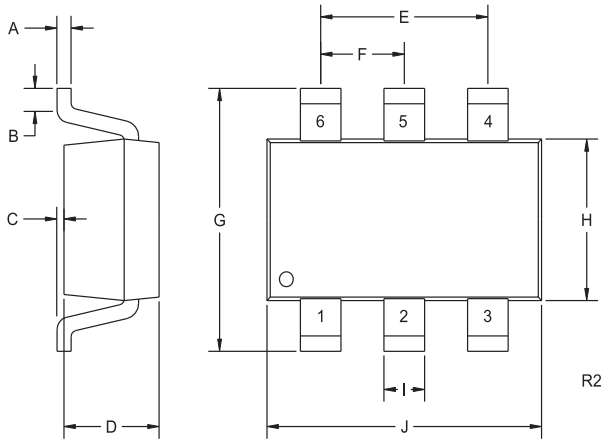
ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: (T_A=25°C unless otherwise noted)

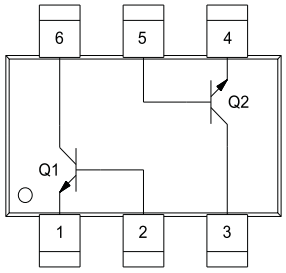
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{re}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz		8.0	x10^{-4}
h_{re}	V_{CE}=10V, I_C=10mA, f=1.0kHz		4.0	x10^{-4}
h_{fe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	50	300	
h_{fe}	V_{CE}=10V, I_C=10mA, f=1.0kHz	75	375	
h_{oe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	5.0	35	µS
h_{oe}	V_{CE}=10V, I_C=10mA, f=1.0kHz	25	200	µS
rb'C_c	V_{CB}=10V, I_E=20mA, f=31.8MHz		150	ps
NF	V_{CE}=10V, I_C=100µA, R_S=1.0kΩ, f=1.0kHz		4.0	dB
t_d	V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA		10	ns
t_r	V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA		25	ns
t_s	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA		225	ns
t_f	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA		60	ns

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: X1P

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).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors