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CMKT2222A
SURFACE MOUNT
DUAL NPN SMALL SIGNAL
SILICON SWITCHING
TRANSISTORS



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMKT2222A consists of two individually isolated 2222A NPN silicon transistors, manufactured by the epitaxial planar process and epoxy molded in an SOT-363 surface mount package. This ULTRAmimi™ device has been designed for small signal general purpose and switching applications.

MARKING CODE: K22

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		UNITS
V _{CB0}	75	V
V _{CEO}	40	V
V _{EBO}	6.0	V
I _C	600	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	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 _{CB0}	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} =1.0V, I _C =150mA	50		
h _{FE}	V _{CE} =10V, I _C =150mA	100	300	
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

R4 (13-January 2010)

CMKT2222A

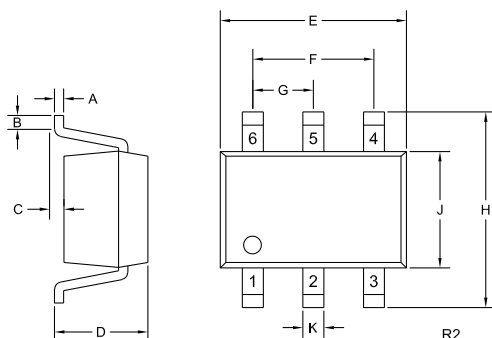
SURFACE MOUNT
DUAL NPN SMALL SIGNAL
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TRANSISTORS



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

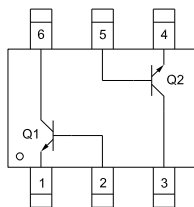
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h _{ie}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	2.0	8.0	kΩ
h _{ie}	V _{CE} =10V, I _C =10mA, f=1.0kHz	0.25	1.25	kΩ
h _{re}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz		8.0	x10 ⁻⁴
h _{re}	V _{CE} =10V, I _C =10mA, f=1.0kHz		4.0	x10 ⁻⁴
h _{fe}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	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-363 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.010	0.10	0.25
B	0.005	-	0.12	-
C	0.000	0.004	0.00	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.075	0.091	1.90	2.30
J	0.043	0.055	1.10	1.40
K	0.006	0.012	0.15	0.30

SOT-363 (REV: R2)



LEAD CODE:

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

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R4 (13-January 2010)

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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

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- 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

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