

CMKT3920

SURFACE MOUNT SILICON  
DUAL, SMALL SIGNAL  
NPN SWITCHING TRANSISTOR

ULTRAm<sup>ini</sup><sup>™</sup>



SOT-363 CASE



www.centrasemi.com

**DESCRIPTION:**

The Central Semiconductor CMKT3920 (two single NPN transistors) is a dual combination in a space saving SOT-363 ULTRAm<sup>ini</sup><sup>™</sup> package, designed for small signal general purpose amplifier and switching applications.

**MARKING CODE: K20**

**APPLICATIONS:**

- Load switching
- Small signal amplification
- Lamp and relay drivers
- MOSFET gate drive

**FEATURES:**

- ULTRAm<sup>ini</sup><sup>™</sup> space saving package containing two 3920 NPN transistors

**MAXIMUM RATINGS:** (T<sub>A</sub>=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 <sub>CBO</sub>	60	V
V <sub>CEO</sub>	50	V
V <sub>EBO</sub>	7.0	V
I <sub>C</sub>	200	mA
P <sub>D</sub>	350	mW
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
θ <sub>JA</sub>	357	°C/W

**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =60V		100	nA
I <sub>EBO</sub>	V <sub>EB</sub> =7.0V		100	nA
BV <sub>CBO</sub>	I <sub>C</sub> =50μA	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	50		V
BV <sub>EBO</sub>	I <sub>E</sub> =50μA	7.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.4	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.95	V
h <sub>FE</sub>	V <sub>CE</sub> =6.0V, I <sub>C</sub> =1.0mA	120	560	
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz	300		MHz
C <sub>ob</sub>	V <sub>CB</sub> =12V, I <sub>E</sub> =0, f=1.0MHz		3.5	pF

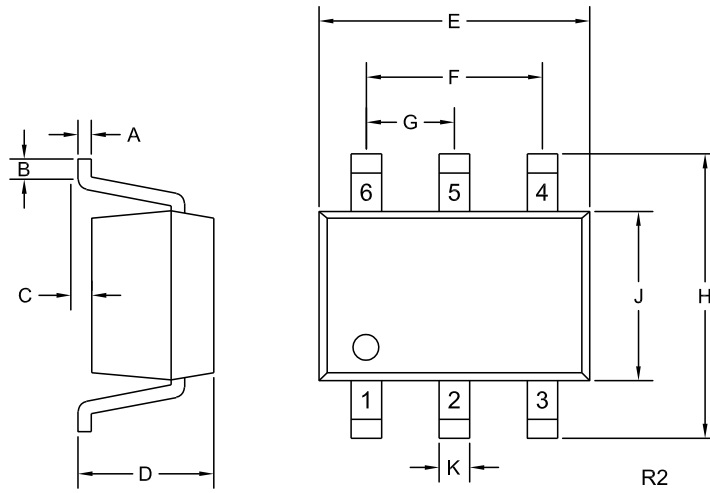
R1 (5-January 2012)

CMKT3920

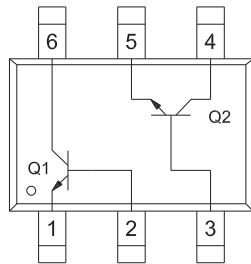
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SOT-363 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

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

MARKING CODE: K20

DIMENSIONS

SYMBOL	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)

R1 (5-January 2012)