

CMKT5078  
CMKT5087  
CMKT5088

ULTRAmi™  
SURFACE MOUNT  
SILICON TRANSISTORS

ULTRAmi™



SOT-363 CASE

**Central™**  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMKT5078 , CMKT5087, and CMKT5088, are Silicon transistors in an ULTRAmi™ surface mount package, designed for applications requiring high gain and low noise.

The following configurations are available:

**CMKT5078** Dual, Complementary Marking Code: K78  
**CMKT5087** Dual, PNP Marking Code: K87  
**CMKT5088** Dual, NPN Marking Code: K88

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

	SYMBOL	NPN	PNP	UNITS
Collector-Base Voltage	V <sub>CB0</sub>	35	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	4.5	3.0	V
Collector Current	I <sub>C</sub>		50	mA
Power Dissipation	P <sub>D</sub>		350	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150		°C
Thermal Resistance	θ <sub>JA</sub>	357		°C/W

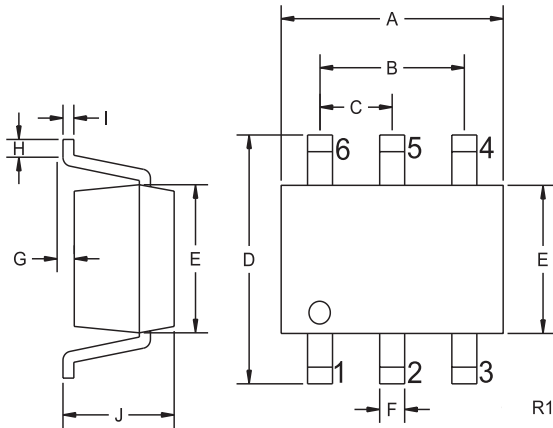
**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CBO</sub>	V <sub>CB</sub> =10V				10	nA
I <sub>CBO</sub>	V <sub>CB</sub> =35V				50	nA
I <sub>CBO</sub>	V <sub>CB</sub> =20V		50			nA
I <sub>EBO</sub>	V <sub>EB</sub> =3.0V		50			nA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	35		50		V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	30		50		V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	4.5		3.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.50		0.30	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.80		0.85	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =0.1mA	300	900	250	800	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	350		250		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	300		250		
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500μA, f=20MHz	50		40		MHz
C <sub>ob</sub>	V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=1.0MHz		4.0		4.0	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=1.0MHz		15			pF
h <sub>fe</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz	350	1400	250	900	
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA, R <sub>S</sub> =10kΩ f=10Hz to 15.7kHz		3.0		2.0	dB
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA, R <sub>S</sub> =10kΩ f=1.0kHz				2.0	dB

R0 ( 19-September 2001)

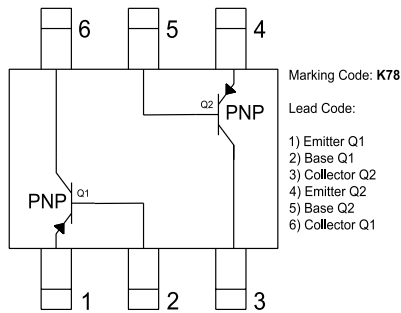
**ULTRAmi<sup>TM</sup>**  
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**SOT-363 CASE - MECHANICAL OUTLINE**

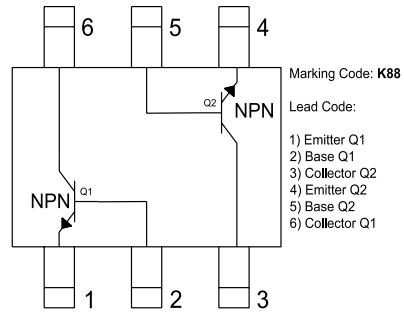


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.85	2.15
B	0.051		1.30	
C	0.026		0.65	
D	0.075	0.091	1.90	2.30
E	0.043	0.055	1.10	1.40
F	0.006	0.012	0.15	0.30
G	0.000	0.004	0.00	0.10
H	0.010	-	0.25	-
I	0.004	0.010	0.10	0.25
J	0.031	0.039	0.80	1.00

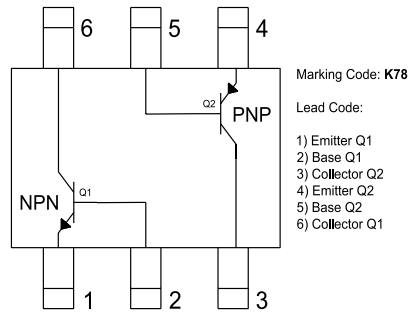
SOT-363 (REV: R1)



**CMKT5087**



**CMKT5088**



**CMKT5078**