CMKT5078
CMKT5087
CMKT5088

ULTRAmini™
SURFACE MOUNT
SILICON TRANSISTORS

ULTRAmini™

SOT-363 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMKT5078 , CMKT5087, and CMKT5088, are Silicon transistors in an ULTRAmini™ 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_A=25°C)

	SYMBOL	NPN		PNP	UNITS
Collector-Base Voltage	V_{CBO}	35		50	V
Collector-Emitter Voltage	V_{CEO}	30		50	V
Emitter-Base Voltage	V_{EBO}	4.5		3.0	V
Collector Current	I_C		50		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: (T_A=25°C unless otherwise noted)

		NPN		PNP		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=10V				10	nA
I_{CBO}	V_{CB}=35V				50	nA
I_{CBO}	V_{CB}=20V		50			nA
I_{EBO}	V_{EB}=3.0V		50			nA
BV_{CBO}	I_C=100μA	35		50		V
BV_{CEO}	I_C=1.0mA	30		50		V
BV_{EBO}	I_E=100μA	4.5		3.0		V
$V_{CE(SAT)}$	I_C=10mA, I_B=1.0mA		0.50		0.30	V
$V_{BE(SAT)}$	I_C=10mA, I_B=1.0mA		0.80		0.85	V
h_{FE}	V_{CE}=5.0V, I_C=0.1mA	300	900	250	800	
h_{FE}	V_{CE}=5.0V, I_C=1.0mA	350		250		
h_{FE}	V_{CE}=5.0V, I_C=10mA	300		250		
f_T	V_{CE}=5.0V, I_C=500μA, f=20MHz	50		40		MHz
C_{ob}	V_{CB}=5.0V, I_E=0, f=1.0MHz		4.0		4.0	pF
C_{ib}	V_{BE}=0.5V, I_C=0, f=1.0MHz		15			pF
h_{fe}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz	350	1400	250	900	
NF	V_{CE}=5.0V, I_C=100μA, R_S=10kΩ f=10Hz to 15.7kHz		3.0		2.0	dB
NF	V_{CE}=5.0V, I_C=100μA, RS=10kΩ f=1.0kHz				2.0	dB

R1 (21-February 2002)

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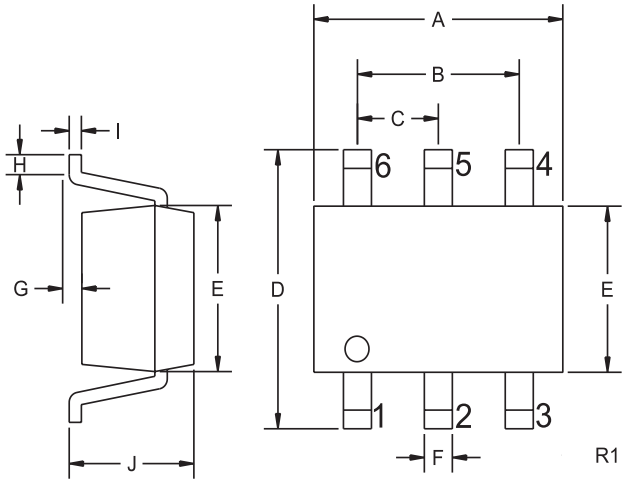
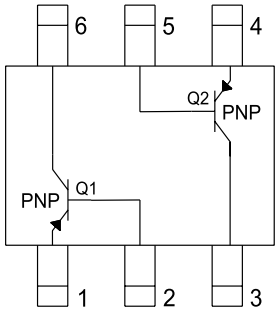
SOT-363 CASE - MECHANICAL OUTLINE

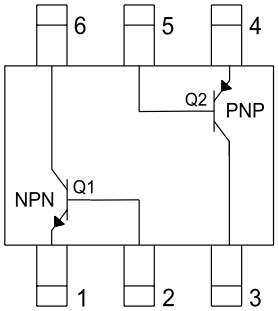


DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.073	0.085	1.85	2.15
B	0.051		1.30	
C	0.026		0.65	
D	0.075	0.091	1.90	2.30
E	0.043	0.055	1.10	1.40
F	0.006	0.012	0.15	0.30
G	0.000	0.004	0.00	0.10
H	0.010	-	0.25	-
I	0.004	0.010	0.10	0.25
J	0.031	0.039	0.80	1.00

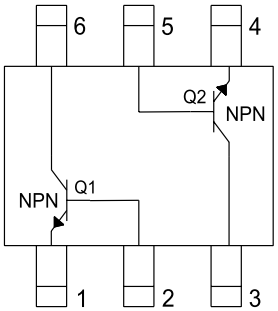
SOT-363 (REV: R1)



CMKT5087
Marking Code: K87



CMKT5078
Marking Code: K78



CMKT5088
Marking Code: K88

LEAD CODE (for all devices above):

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

R1 (21-February 2002)