

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: ($T_A=25^{\circ}\text{C}$)

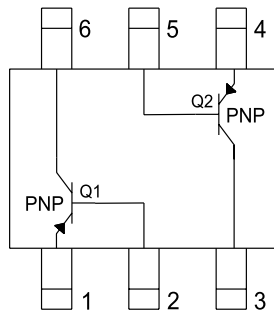
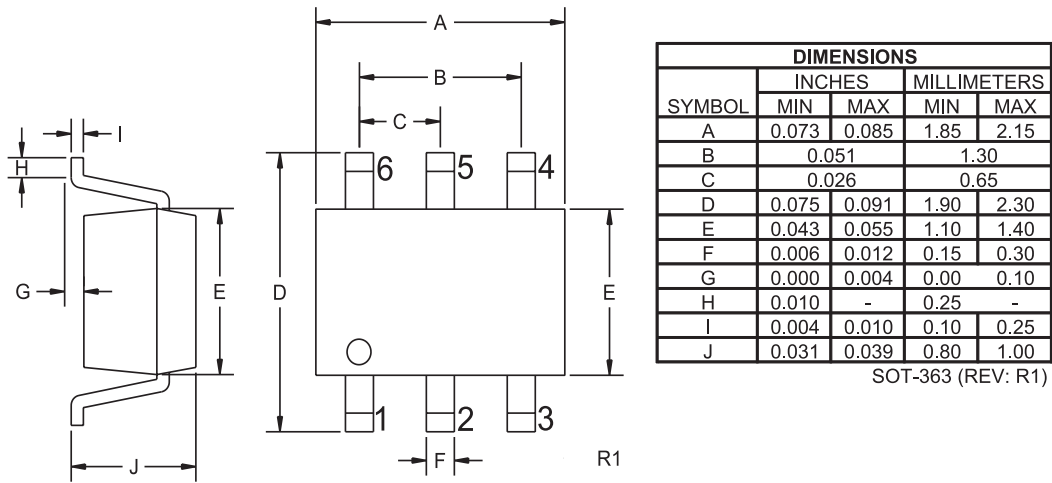
	SYMBOL	NPN	PNP	UNITS
Collector-Base Voltage	V_{CBO}	35	50	V
Collector-Emitter Voltage	V_{CEO}	30	50	V
Emitter-Base Voltage	V_{EBO}	4.5	3.0	V
Collector Current	I_C	50		mA
Power Dissipation	P_D	350		mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

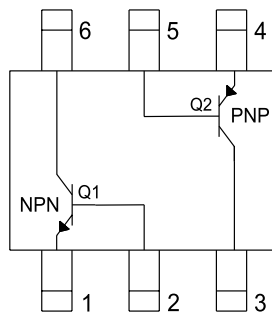
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=10\text{V}$				10	nA
I_{CBO}	$V_{CB}=35\text{V}$				50	nA
I_{CBO}	$V_{CB}=20\text{V}$		50			nA
I_{EBO}	$V_{EB}=3.0\text{V}$		50			nA
BV_{CBO}	$I_C=100\mu\text{A}$	35		50		V
BV_{CEO}	$I_C=1.0\text{mA}$	30		50		V
BV_{EBO}	$I_E=100\mu\text{A}$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

R1 (21-February 2002)

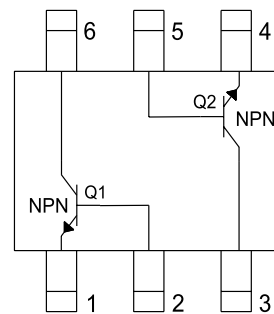
SOT-363 CASE - MECHANICAL OUTLINE



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