

CMLT5078E NPN/PNP
 CMLT5087E PNP/PNP
 CMLT5088E NPN/NPN

**ENHANCED SPECIFICATION
 SURFACE MOUNT
 SILICON DUAL TRANSISTORS**



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PICOmini™



SOT-563 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT5078E, CMLT5087E, and CMLT5088E, are Silicon transistors in a PICOmini™ surface mount package with enhanced specifications designed for applications requiring high gain and low noise.

MARKING CODE & CONFIGURATION:

CMLT5078E: DUAL, COMPLEMENTARY: L78
 CMLT5087E: DUAL, PNP: L87
 CMLT5088E: DUAL, NPN: L88

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
◆ Collector-Base Voltage	V _{CB0}	50	V
◆ Collector-Emitter Voltage	V _{CEO}	50	V
◆ Emitter-Base Voltage	V _{EBO}	5.0	V
Continuous Collector Current	I _C	100	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 PER TRANSISTOR: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP			MAX	UNITS
		MIN	NPN	PNP		
I _{CBO}	V _{CB} =20V				50	nA
I _{EBO}	V _{EB} =3.0V				50	nA
◆ BV _{CB0}	I _C =100μA	50	135	150		V
◆ BV _{CEO}	I _C =1.0mA	50	65	105		V
◆ BV _{EBO}	I _E =100μA	5.0	8.7	7.5		V
◆ V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		45	50	100	mV
◆◆ V _{CE(SAT)}	I _C =100mA, I _B =10mA		110	225	400	mV
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA		700	700	800	mV
◆ h _{FE}	V _{CE} =5.0V, I _C =0.1mA	300	430	390	900	
h _{FE}	V _{CE} =5.0V, I _C =1.0mA	300	435	380		
◆ h _{FE}	V _{CE} =5.0V, I _C =10mA	300	430	350		
◆◆ h _{FE}	V _{CE} =5.0V, I _C =100mA	50	125	75		
◆ f _T	V _{CE} =5.0V, I _C =500μA, f=20MHz	100				MHz
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz				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	
NF	V _{CE} =5.0V, I _C =100μA, R _S =10kΩ, f=10Hz to 15.7kHz				3.0	dB

- ◆ Enhanced specification.
- ◆◆ Additional Enhanced specification.

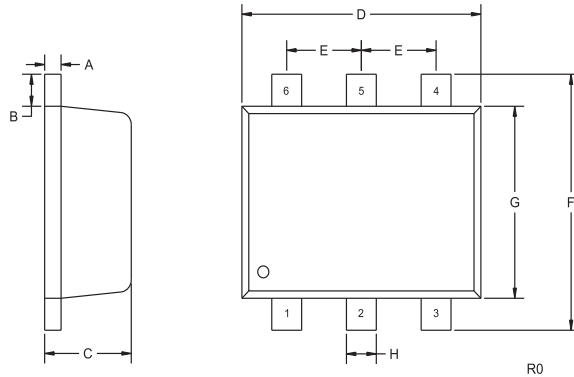
R3 (20-January 2010)

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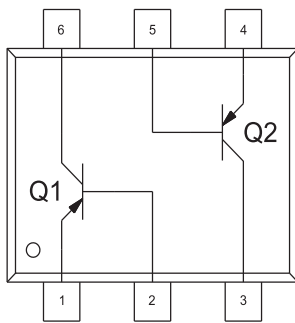
SOT-563 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

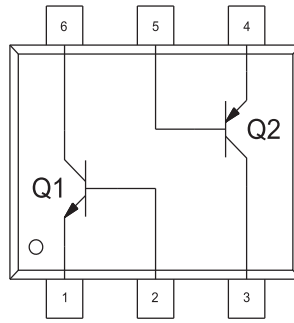
SOT-563 (REV: R0)

PIN CONFIGURATIONS



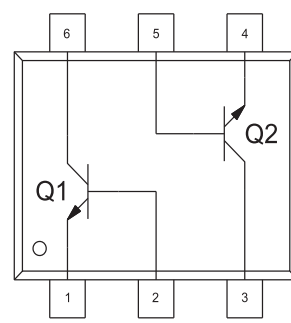
CMLT5087E

MARKING CODE: L87



CMLT5078E

MARKING CODE: L78



CMLT5088E

MARKING CODE: L88

LEAD CODE:

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

R3 (20-January 2010)