

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

**ENHANCED SPECIFICATION
 PICOmini™ SURFACE MOUNT
 SILICON DUAL TRANSISTORS**

**ENHANCED
 SPECIFICATION**

PICOmini™



SOT-563 CASE

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

- ◆ Collector-Base Voltage
- ◆ Collector-Emitter Voltage
- ◆ Emitter-Base Voltage
- Collector Current
- Power Dissipation
- Operating and Storage
- Junction Temperature
- Thermal Resistance

SYMBOL

V_{CBO}	50	
V_{CEO}	50	
V_{EBO}	5.0	
I_C	100	
P_D	350	
T_J, T_{stg}	-65 to +150	
θ_{JA}	357	

UNITS

V
V
V
mA
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: ($T_A=25^\circ\text{C}$ 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_{CBO}	$I_C=100\mu\text{A}$	50	135	150		V
◆ BV_{CEO}	$I_C=1.0\text{mA}$	50	65	105		V
◆ BV_{EBO}	$I_E=100\mu\text{A}$	5.0	8.7	7.5		V
◆ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		45	50	100	mV
◆ $V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		110	225	400	mV
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		700	700	800	mV
◆ h_{FE}	$V_{CE}=5.0V, I_C=0.1\text{mA}$	300	430	390	900	
h_{FE}	$V_{CE}=5.0V, I_C=1.0\text{mA}$	300	435	380		
◆ h_{FE}	$V_{CE}=5.0V, I_C=10\text{mA}$	300	430	350		
◆ h_{FE}	$V_{CE}=5.0V, I_C=100\text{mA}$	50	125	75		
◆ f_T	$V_{CE}=5.0V, I_C=500\mu\text{A}, f=20\text{MHz}$	100				MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0\text{MHz}$				4.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0\text{MHz}$				15	pF
h_{fe}	$V_{CE}=5.0V, I_C=1.0\text{mA}, f=1.0\text{kHz}$	350			1400	
NF	$V_{CE}=5.0V, I_C=100\mu\text{A}, R_S=10\text{k}\Omega, f=10\text{Hz to } 15.7\text{kHz}$				3.0	dB

◆ Enhanced specification.

◆◆ Additional Enhanced specification.

For Typical Electrical Characteristic Data for NPN Transistor and PNP Transistor, please see Process CP188 & CP588 on pages 816 & 855, respectively.

Central™

Semiconductor Corp.

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:

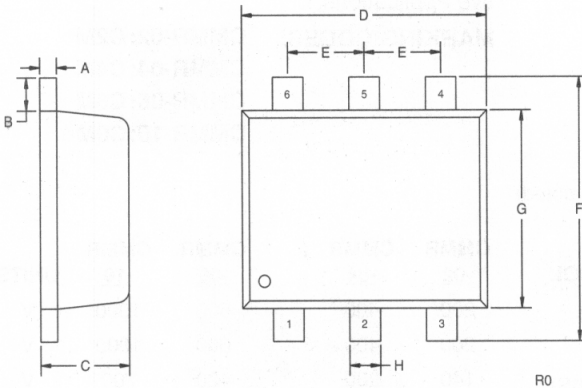
CMLT5078E: DUAL, COMPLEMENTARY: L78

CMLT5087E: DUAL, PNP: L87

CMLT5088E: DUAL, NPN: L88

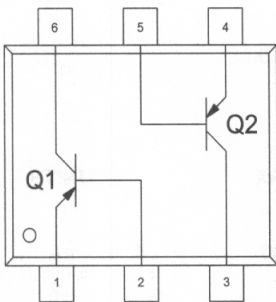
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SOT-563 CASE - MECHANICAL OUTLINE



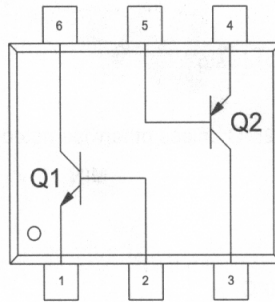
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)



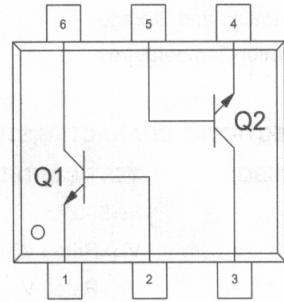
CMLT5087E

MARKING CODE: L87



CMLT5078E

MARKING CODE: L78



CMLT5088E

MARKING CODE: L88

LEAD CODE:
 (FOR ALL DEVICES):

- 1) EMITTER Q1
- 2) BASE Q1
- 3) COLLECTOR Q2
- 4) EMITTER Q2
- 5) BASE Q2
- 6) COLLECTOR Q1

DATA SHEETS