

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

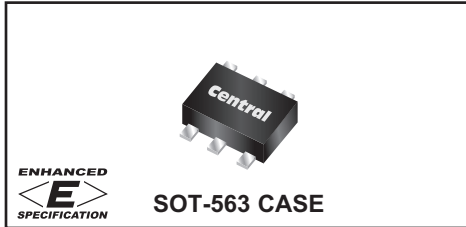
**ENHANCED SPECIFICATION
 SURFACE MOUNT SILICON
 DUAL TRANSISTORS**



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT5078E, CMLT5087E, and CMLT5088E are surface mount silicon transistors with enhanced specifications designed for applications requiring high gain and low noise.



**MARKING CODES: CMLT5078E: L78
 CMLT5087E: L87
 CMLT5088E: L88 or 88**

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

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

SYMBOL		UNITS
V_{CB0}	50	V
V_{CEO}	50	V
V_{EBO}	5.0	V
I_C	100	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP		MAX	UNITS
			NPN	PNP		
I_{CB0}	$V_{CB}=20\text{V}$				50	nA
I_{EBO}	$V_{EB}=3.0\text{V}$				50	nA
◆ BV_{CB0}	$I_C=100\mu\text{A}$	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}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	300	430	390	900	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	300	435	380		
◆ h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	300	430	350		
◆◆ h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	50	125	75		
◆ f_T	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	100				MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$				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	
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	dB

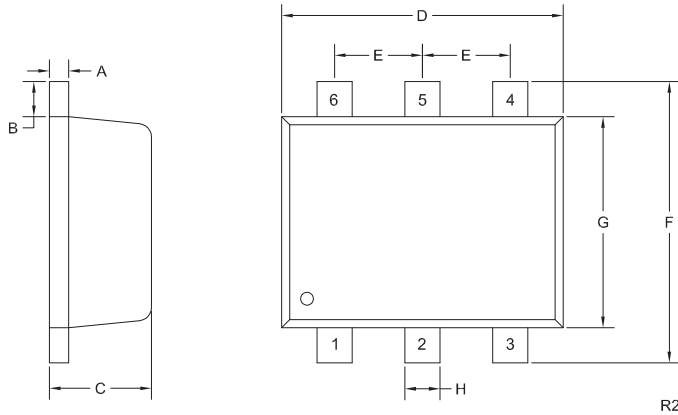
◆ Enhanced specification
 ◆◆ Additional Enhanced specification

R6 (29-June 2015)

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ENHANCED SPECIFICATION
SURFACE MOUNT SILICON
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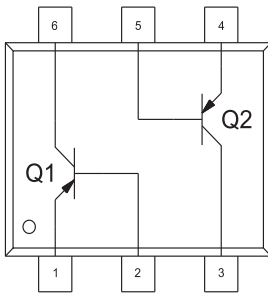
SOT-563 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

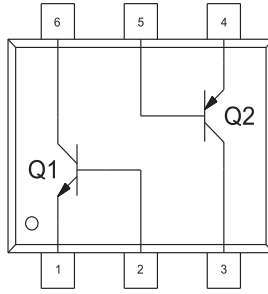
SOT-563 (REV: R2)

PIN CONFIGURATIONS



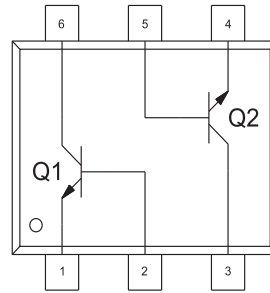
CMLT5087E

MARKING CODE: L87



CMLT5078E

MARKING CODE: L78



CMLT5088E

MARKING CODE: L88 or 88

LEAD CODE:

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

R6 (29-June 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

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- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

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