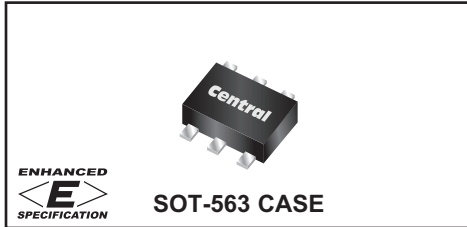


CMLT5078E NPN/PNP
 CMLT5087E PNP/PNP
 CMLT5088E NPN/PNP

**ENHANCED SPECIFICATION
 SURFACE MOUNT SILICON
 DUAL TRANSISTORS**



www.centrasemi.com



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°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 | °C |
| θ _{JA} | 357 | °C/W |

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: (T_A=25°C unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | TYP | | MAX | UNITS |
|------------------------|---|-----|-----|-----|------|-------|
| | | | NPN | PNP | | |
| I _{CB0} | 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 |

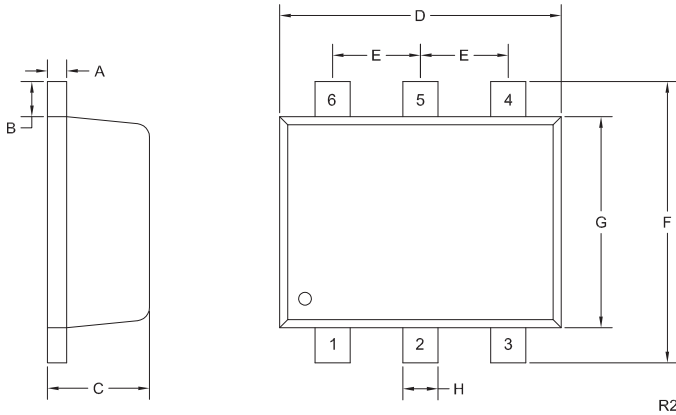
- ◆ Enhanced specification
- ◆◆ Additional Enhanced specification

R6 (29-June 2015)

CMLT5078E NPN/PNP
CMLT5087E PNP/PNP
CMLT5088E NPN/PNP
ENHANCED SPECIFICATION
SURFACE MOUNT SILICON
DUAL TRANSISTORS



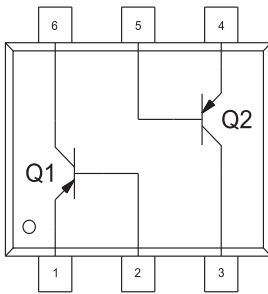
SOT-563 CASE - MECHANICAL OUTLINE



| 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 |

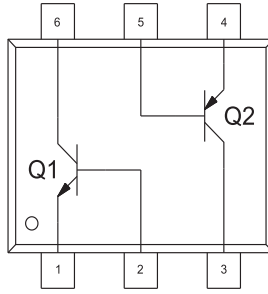
SOT-563 (REV: R2)

PIN CONFIGURATIONS



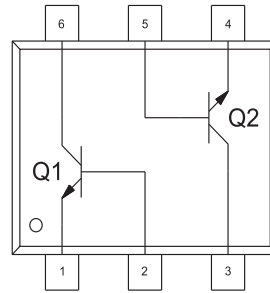
CMLT5087E

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.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- 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

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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