Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!


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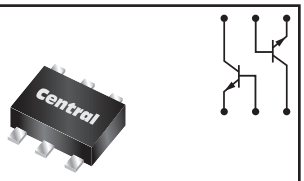
**CMLT5088EM**

**SURFACE MOUNT SILICON DUAL, MATCHED NPN TRANSISTOR**



**SOT-563 CASE**

• Device is ***Halogen Free*** by design

www.centralsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMLT5088EM consists of two individual, isolated 5088E NPN silicon transistors with matched $V_{BE(ON)}$ characteristics. This device is designed for applications requiring high gain and low noise.

**MARKING CODE: 88M**

**FEATURES:**

• Transistor pair matched for $V_{BE(ON)}$

| **MAXIMUM RATINGS:** ($T_A$=25°C) | **SYMBOL** | | **UNITS** |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 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 | $\Theta_{JA}$ | 357 | °C/W |

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

| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **TYP** | **MAX** | **UNITS** |
|---|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=20V | | | 50 | nA |
| $I_{EBO}$ | $V_{EB}$=3.0V | | | 50 | nA |
| $BV_{CBO}$ | $I_C$=100μA | 50 | 135 | | V |
| $BV_{CEO}$ | $I_C$=1.0mA | 50 | 65 | | V |
| $BV_{EBO}$ | $I_E$=100μA | 5.0 | 8.7 | | V |
| $V_{CE(SAT)}$ | $I_C$=10mA, $I_B$=1.0mA | | 45 | 100 | mV |
| $V_{CE(SAT)}$ | $I_C$=100mA, $I_B$=10mA | | 110 | 400 | mV |
| $V_{BE(SAT)}$ | $I_C$=10mA, $I_B$=1.0mA | | 700 | 800 | mV |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=0.1mA | 300 | 430 | 900 | |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=1.0mA | 300 | 435 | | |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=10mA | 300 | 430 | | |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=100mA | 50 | 125 | | |
| $f_T$ | $V_{CE}$=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 |

**MATCHING CHARACTERISTICS:**

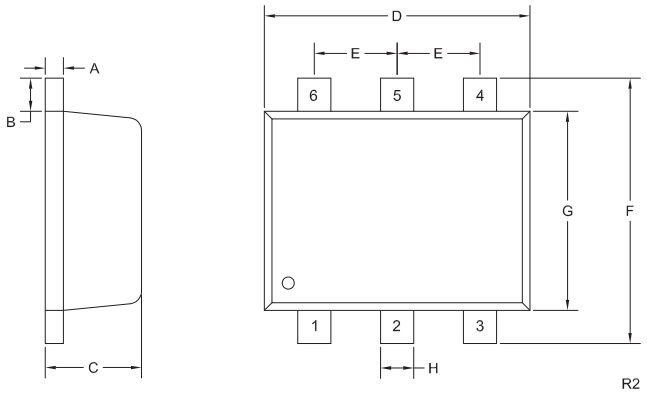
| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **MAX** | **UNITS** |
|---|---|---|---|---|
| $\lvert V_{BE1}-V_{BE2}\rvert$ | $V_{CE}$=5.0V, $I_C$=1.0μA | | 10 | mV |
| $\lvert V_{BE1}-V_{BE2}\rvert$ | $V_{CE}$=5.0V, $I_C$=5.0μA | | 10 | mV |
| $\lvert V_{BE1}-V_{BE2}\rvert$ | $V_{CE}$=5.0V, $I_C$=10μA | | 10 | mV |
| $\lvert V_{BE1}-V_{BE2}\rvert$ | $V_{CE}$=5.0V, $I_C$=100μA | | 10 | mV |

R3 (29-June 2015)

**CMLT5088EM**

**SURFACE MOUNT SILICON**
**DUAL, MATCHED**
**NPN TRANSISTOR**

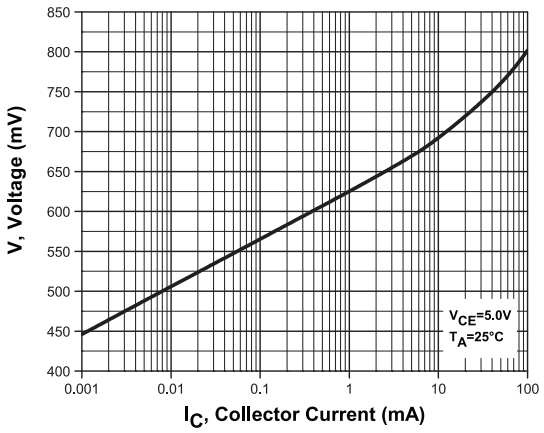
## SOT-563 CASE - MECHANICAL OUTLINE



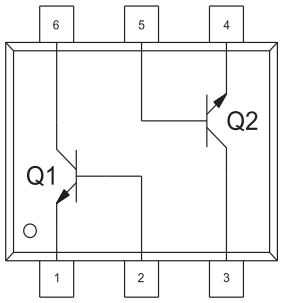

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | MIN | MAX | MIN | MAX |
| A | 0.0027 | 0.007 | 0.07 | 0.18 |
| B | 0.008 | | 0.20 | |
| C | 0.017 | 0.024 | 0.45 | 0.60 |
| D | 0.059 | 0.067 | 1.50 | 1.70 |
| E | 0.020 | | 0.50 | |
| F | 0.059 | 0.067 | 1.50 | 1.70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

SOT-563 (REV: R2)

**CMLT5088EM Typical $V_{BE(ON)}$**




**PIN CONFIGURATION**




**LEAD CODE:**
1) Emitter Q1
2) Base Q1
3) Collector Q2
4) Emitter Q2
5) Base Q2
6) Collector Q1

**MARKING CODE: 88M**

## 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).

### CONTACT US

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