

CMPTA13      CMPTA14 NPN  
 CMPTA63      CMPTA64 PNP

**SURFACE MOUNT  
 COMPLEMENTARY SILICON  
 DARLINGTON TRANSISTORS**



**SOT-23 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPTA13 and CMPTA63 series are complementary silicon darlington transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

**MARKING CODES:** CMPTA13: C1M  
 CMPTA14: C1N  
 CMPTA63: C2U  
 CMPTA64: C2V

MAXIMUM RATINGS: (T <sub>A</sub> =25°C)	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CES</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	10	V
Continuous Collector Current	I <sub>C</sub>	500	mA
Power Dissipation	P <sub>D</sub>	350	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	θ <sub>JA</sub>	357	°C/W

**ELECTRICAL CHARACTERISTICS: (T<sub>A</sub>=25°C unless otherwise noted)**

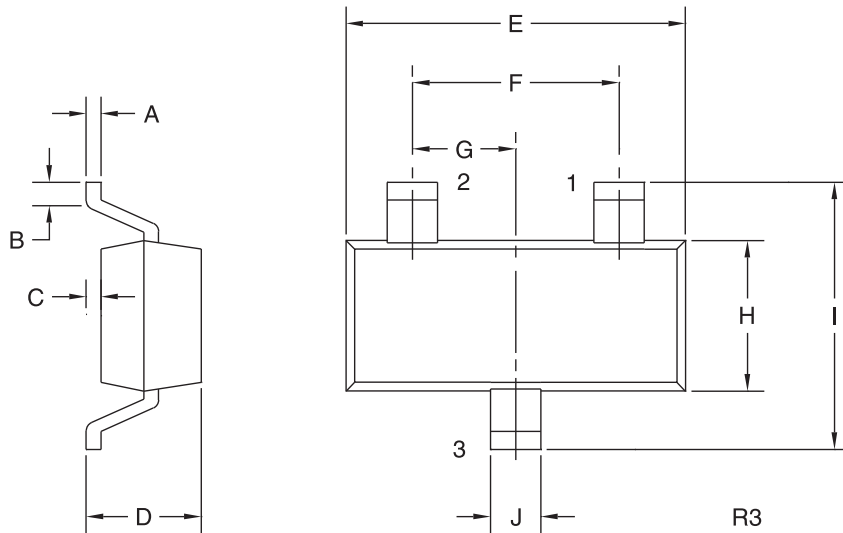
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CB0</sub>	V <sub>CB</sub> =30V		100	nA
I <sub>EBO</sub>	V <sub>BE</sub> =10V		100	nA
BV <sub>CES</sub>	I <sub>C</sub> =100μA	30		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =0.1mA		1.5	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA		2.0	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA (CMPTA13, CMPTA63)	5,000		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA (CMPTA14, CMPTA64)	10,000		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA (CMPTA13, CMPTA63)	10,000		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA (CMPTA14, CMPTA64)	20,000		
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA, f=100MHz	125		MHz

CMPTA13    CMPTA14 NPN  
 CMPTA63    CMPTA64 PNP



**SURFACE MOUNT  
 COMPLEMENTARY SILICON  
 DARLINGTON TRANSISTORS**

**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Base
- 2) Emitter
- 3) Collector

**MARKING CODES:**

- CMPTA13: C1M
- CMPTA14: C1N
- CMPTA63: C2U
- CMPTA64: C2V

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R5 (1-February 2010)

## 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 (2<sup>nd</sup> 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

#### 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.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)