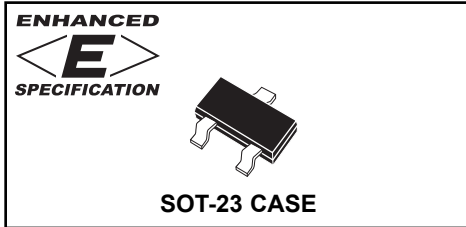


**CMPTA14E**  
**ENHANCED SPECIFICATION**  
**SURFACE MOUNT NPN**  
**SILICON DARLINGTON TRANSISTOR**



# Central™

## Semiconductor Corp.

**DESCRIPTION:**

The Central Semiconductor CMPTA14E is an Enhanced version of the CMPTA14 NPN Darlington Transistor. This device is manufactured by the epitaxial planar process, epoxy molded in a surface mount SOT-23 package, designed for applications requiring extremely high gain.

**MARKING CODE: C1NE**

**FEATURED ENHANCED SPECIFICATIONS:**

- ◆  $BV_{CBO}$  from 30V min to 40V min.
- ◆  $V_{CE(SAT)}$  from 1.5V max to 1.0V max.
- ◆  $h_{FE}$  from 10K min to 30K min.

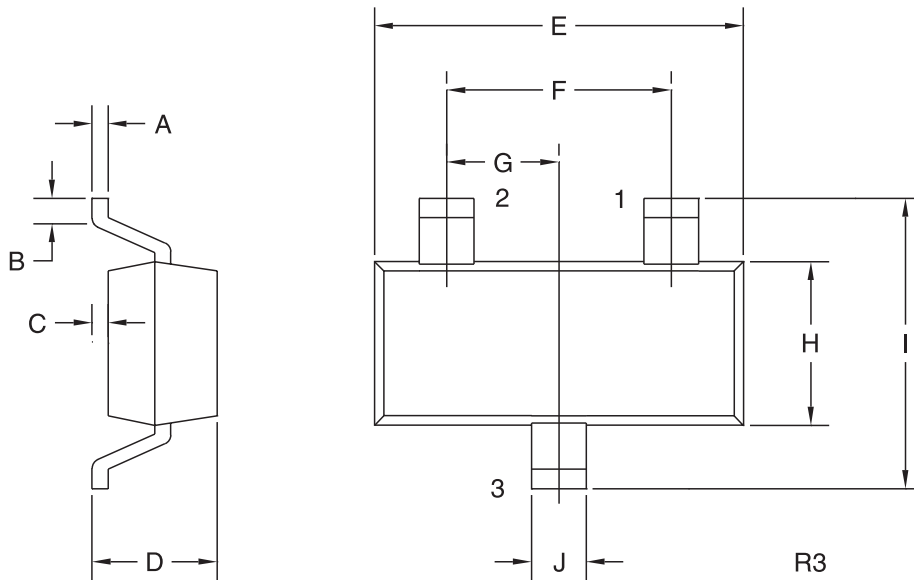
MAXIMUM RATINGS (T <sub>A</sub> =25°C)	SYMBOL	VALUES	UNITS
◆ Collector-Base Voltage	$V_{CBO}$	40	V
◆ Collector-Emitter Voltage	$V_{CES}$	40	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Collector Current	$I_C$	500	mA
Power Dissipation	$P_D$	350	mW
Operating and Storage			
Junction Temperature	T <sub>J</sub> , 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	TYP	MAX	UNITS
◆ $I_{CBO}$	$V_{CB}=40V$			100	nA
$I_{EBO}$	$V_{EB}=10V$			100	nA
◆ $BV_{CES}$	$I_C=100\mu A$	40	60		V
◆ $V_{CE(SAT)}$	$I_C=100mA, I_B=0.1mA$		0.75	1.0	V
$V_{BE(ON)}$	$V_{CE}=5.0V, I_C=100mA$			2.0	V
◆ $h_{FE}$	$V_{CE}=5.0V, I_C=10mA$	30,000	70,000		
◆ $h_{FE}$	$V_{CE}=5.0V, I_C=100mA$	40,000	75,000		
◆◆ $h_{FE}$	$V_{CE}=5.0V, I_C=500mA$	10,000	35,000		
f <sub>T</sub>	$V_{CE}=5.0V, I_C=10mA, f=100MHz$	125			MHz

- ◆ Enhanced specification.
- ◆◆ Additional Enhanced specification.

**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

**MARKING CODE: C1NE**

SYMBOL	DIMENSIONS			
	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)