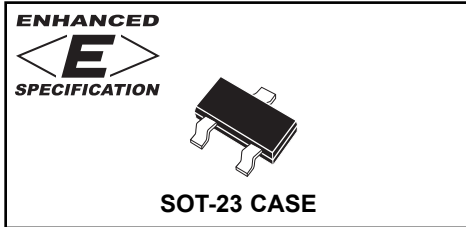


CMPTA14E
ENHANCED SPECIFICATION
SURFACE MOUNT NPN
SILICON DARLINGTON TRANSISTOR



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.

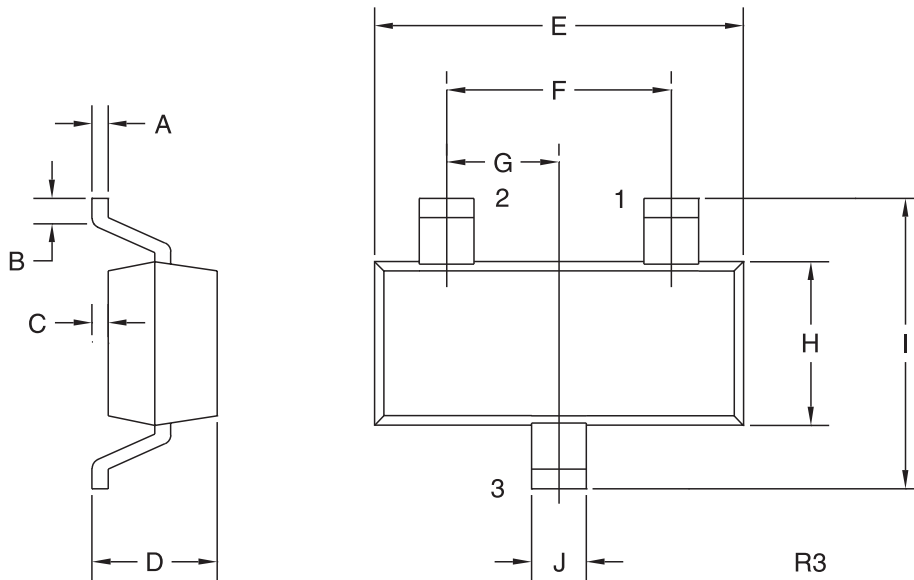
MAXIMUM RATINGS (T _A =25°C)	SYMBOL	UNITS
◆ Collector-Base Voltage	V_{CBO}	40 V
◆ Collector-Emitter Voltage	V_{CES}	40 V
Emitter-Base Voltage	V_{EBO}	10 V
Collector Current	I_C	500 mA
Power Dissipation	P_D	350 mW
Operating and Storage		
Junction Temperature	T _J , T _{stg}	-65 to +150 °C
Thermal Resistance	θ _{JA}	357 °C/W

ELECTRICAL CHARACTERISTICS (T_A=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 _T	$V_{CE}=5.0V, I_C=10mA, f=100MHz$	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)



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