

CMPT6427

**SURFACE MOUNT
NPN SILICON
DARLINGTON TRANSISTOR**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT6427 type is a NPN silicon darlington transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

MARKING CODE: C1V

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{CBO} 40
 V_{CEO} 40
 V_{EBO} 12
 I_C 500
 P_D 350
 T_J, T_{stg} -65 to +150
 θ_{JA} 357

UNITS

V
V
V
mA
mW
 $^{\circ}\text{C}$
 $^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		50	nA
I_{CEO}	$V_{CE}=25\text{V}$		1.0	μA
I_{EBO}	$V_{BE}=10\text{V}$		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	40		V
BV_{CEO}	$I_C=10\text{mA}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	12		V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=0.5\text{mA}$		1.20	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$		1.50	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$		2.00	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$		1.75	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10K	100K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	20K	200K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	14K	140K	
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	130		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		7.0	pF
C_{ib}	$V_{BE}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		15	pF
NF	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, R_S=100\text{k}\Omega,$ $f=1.0\text{kHz to } 15.7\text{kHz}$		10	dB

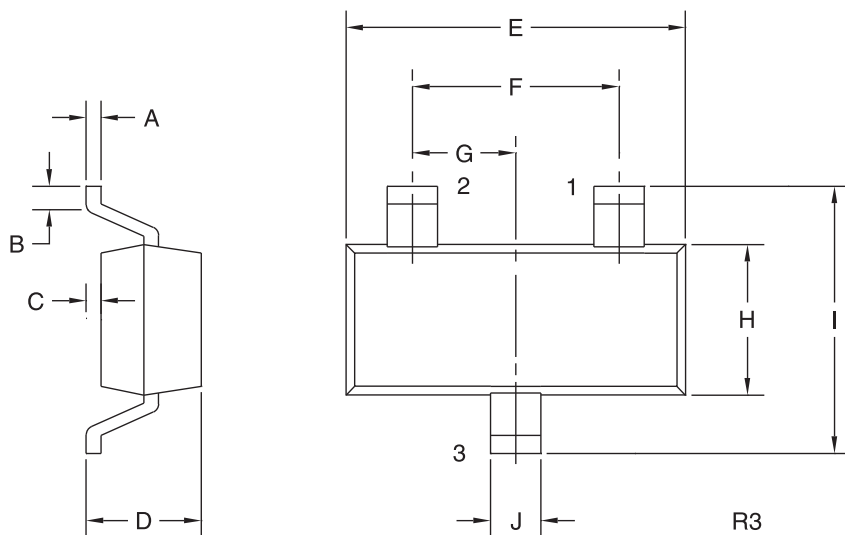
R6 (1-February 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C1V

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)

R6 (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 (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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