

**CMPT2369**  
**SURFACE MOUNT**  
**NPN SILICON TRANSISTOR**



**SOT-23 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT2369 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and high speed switching applications.

**MARKING CODE: C1J**

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

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

**SYMBOL**

$V_{CB0}$	40
$V_{CES}$	40
$V_{CEO}$	15
$V_{EBO}$	4.5
$I_C$	500
$P_D$	350
$T_J, T_{stg}$	-65 to +150
$\theta_{JA}$	357

**UNITS**

V
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
$I_{CBO}$	$V_{CB}=20\text{V}$		0.4	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=20\text{V}, T_A=125^\circ\text{C}$		30	$\mu\text{A}$
$BV_{CB0}$	$I_C=10\mu\text{A}$	40		V
$BV_{CES}$	$I_C=10\mu\text{A}$	40		V
$BV_{CEO}$	$I_C=10\text{mA}$	15		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	4.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.25	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.7	0.85	V
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	40	120	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	20		
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		4.0	pF
$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	500		MHz
$t_s$	$V_{CC}=3.0\text{V}, I_C=I_{B1}=I_{B2}=10\text{mA}$		13	ns
$t_{on}$	$V_{CC}=3.0\text{V}, I_C=10\text{mA}, I_{B1}=3.0\text{mA}$		12	ns
$t_{off}$	$V_{CC}=3.0\text{V}, I_C=10\text{mA}, I_{B1}=3.0\text{mA}, I_{B2}=1.5\text{mA}$		18	ns

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C1J

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



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### 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

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### 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

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### CONTACT US

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