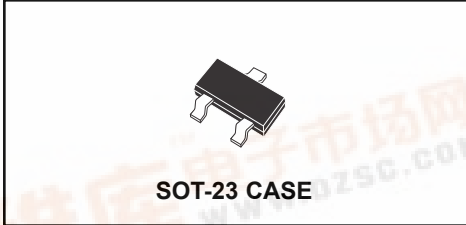


**CMPT5088  
CMPT5089**

**SURFACE MOUNT  
NPN SILICON TRANSISTORS**



# Central<sup>TM</sup>

## Semiconductor Corp.

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5088, CMPT5089 types are NPN silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose and switching applications. Marking Codes are C1Q, C1R respectively.

### MAXIMUM RATINGS: (T<sub>A</sub>=25°C)

	SYMBOL	CMPT5088	CMPT5089	UNITS
Collector-Base Voltage	V <sub>CB0</sub>	35	30	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	25	V
Emitter-Base Voltage	V <sub>EBO</sub>	4.5		V
Collector Current	I <sub>C</sub>	50		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

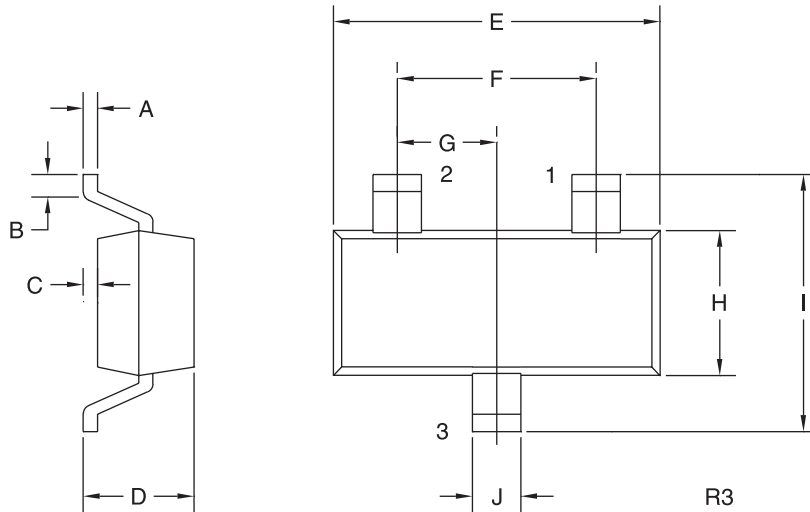
### ELECTRICAL CHARACTERISTICS: (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT5088		CMPT5089		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CBO</sub>	V <sub>CB</sub> =20V		50			nA
I <sub>CBO</sub>	V <sub>CB</sub> =15V			50		nA
I <sub>EBO</sub>	V <sub>EB</sub> =3.0V		50			nA
I <sub>EBO</sub>	V <sub>EB</sub> =4.5V			100		nA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	35		30		V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	30		25		V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	4.5		4.5		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.5		0.5	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.8		0.8	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =0.1mA	300	900	400	1200	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	350		450		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	300		400		
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500μA, f=20MHz	50		50		MHz
C <sub>ob</sub>	V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=1.0MHz		4.0		4.0	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=1.0MHz		15		15	pF
h <sub>fe</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz	350	1400	450	1800	
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA, R <sub>S</sub> =10kΩ f=10Hz to 15.7kHz		3.0		2.0	dB

R4 ( 2 -October 2001)

**SURFACE MOUNT  
NPN SILICON TRANSISTORS**

**SOT-23 CASE - MECHANICAL OUTLINE**



LEAD CODE:

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

**MARKING CODE:**  
CMPT5088 - C1Q  
CMPT5089 - C1R

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)