

CMPT5088
CMPT5089

**SURFACE MOUNT
NPN SILICON TRANSISTOR**



SOT-23 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5088 and CMPT5089 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: CMPT5088: C1Q
CMPT5089: C1R**

MAXIMUM RATINGS: (T_A=25°C)

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

SYMBOL	CMPT5088	CMPT5089	UNITS
V _{CBO}	35	30	V
V _{CEO}	30	25	V
V _{EBO}		4.5	V
I _C		50	mA
P _D		350	mW
T _J , T _{stg}		-65 to +150	°C
θ _{JA}		357	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPT5088		CMPT5089		UNITS
		MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} =20V	-	50	-	-	nA
I _{CBO}	V _{CB} =15V	-	-	-	50	nA
I _{EBO}	V _{EB} =3.0V	-	50	-	-	nA
I _{EBO}	V _{EB} =4.5V	-	-	-	100	nA
BV _{CBO}	I _C =100μA	35	-	30	-	V
BV _{CEO}	I _C =1.0mA	30	-	25	-	V
BV _{EBO}	I _E =100μA	4.5	-	4.5	-	V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA	-	0.5	-	0.5	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA	-	0.8	-	0.8	V
h _{FE}	V _{CE} =5.0V, I _C =0.1mA	300	900	400	1200	
h _{FE}	V _{CE} =5.0V, I _C =1.0mA	350	-	450	-	
h _{FE}	V _{CE} =5.0V, I _C =10mA	300	-	400	-	
f _T	V _{CE} =5.0V, I _C =500μA, f=20MHz	50	-	50	-	MHz
C _{ob}	V _{CB} =5.0V, I _E =0, f=1.0MHz	-	4.0	-	4.0	pF
C _{ib}	V _{BE} =0.5V, I _C =0, f=1.0MHz	-	15	-	15	pF
h _{fe}	V _{CE} =5.0V, I _C =1.0mA, f=1.0kHz	350	1400	450	1800	
NF	V _{CE} =5.0V, I _C =100μA, R _S =10kΩ, f=10Hz to 15.7kHz	-	3.0	-	2.0	dB

R7 (9-September 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMPT5088: C1Q
 CMPT5089: C1R

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)

R7 (9-September 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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