

CMST5088
CMST5089

SURFACE MOUNT
SUPERmini™
NPN SILICON TRANSISTORS

SUPERmini™



SOT-323 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMST5088, CMST5089 types are NPN silicon transistors manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ surface mount package, designed for applications requiring high gain and low noise.

**MARKING CODES: CMST5088: 1QC
CMST5089: 1RC**

MAXIMUM RATINGS: (T_A=25°C)

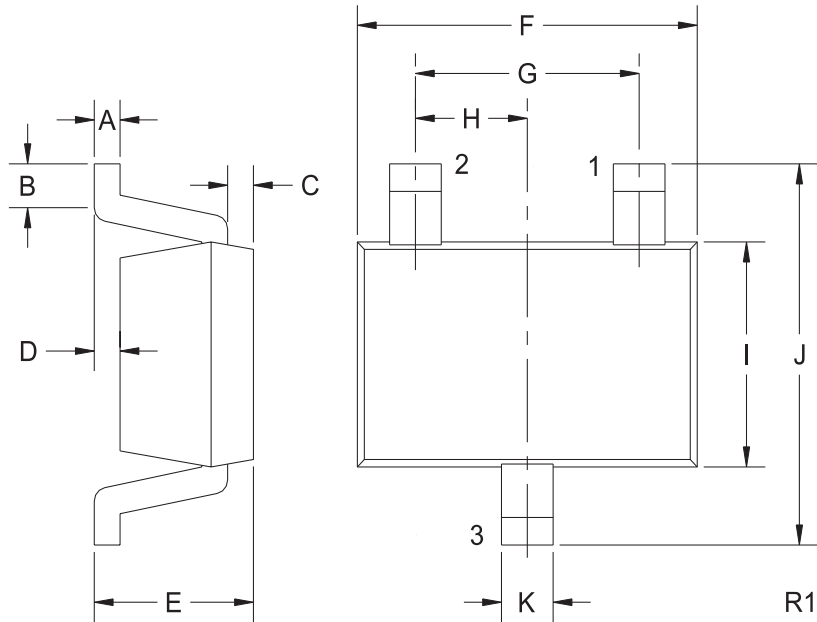
	SYMBOL	CMST5088	CMST5089	UNITS
Collector-Base Voltage	V _{CB0}	35	30	V
Collector-Emitter Voltage	V _{CEO}	30	25	V
Emitter-Base Voltage	V _{EBO}	4.5		V
Collector Current	I _C	50		mA
Power Dissipation	P _D	250		mW
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JA}	500		°C/W

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

SYMBOL	TEST CONDITIONS	CMST5088		CMST5089		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 _{CB0}	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

R2 (14-November 2002)

SOT-323 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE:
CMST5088 - 1QC
CMST5089 - 1RC

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.004	-	0.10	-
C	0.004	0.008	0.10	0.20
D	-	0.004	-	0.10
E	0.031	0.043	0.80	1.10
F	0.071	0.087	1.80	2.20
G	0.051		1.30	
H	0.026		0.65	
I	0.045	0.053	1.15	1.35
J	0.079	0.087	2.00	2.20
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R1)