CMST5088
CMST5089

SUPERmini™
SURFACE MOUNT
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 are 1QC, 1RC respectively.

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL	CMST5088		CMST5089	UNITS
Collector-Base Voltage	V_{CBO}	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)

		CMST5088		CMST5089		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNITS
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

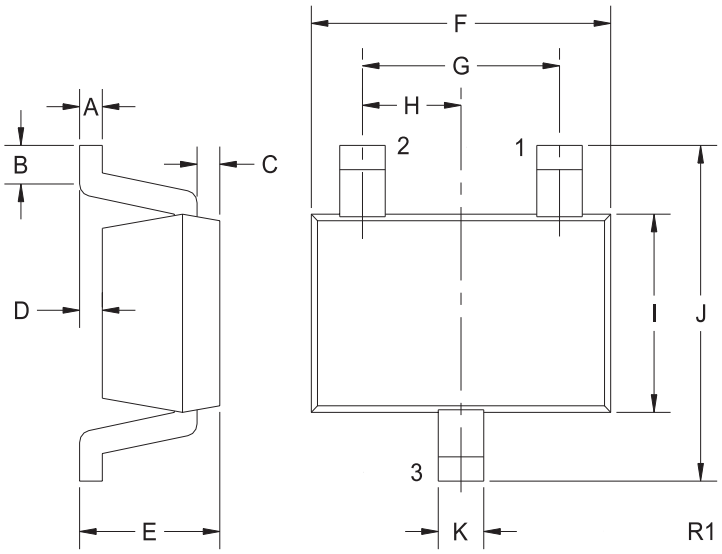
R1 (19-September 2001)

Central™
Semiconductor Corp.

CMST5088
CMST5089

SUPERmini™
SURFACE MOUNT
NPN SILICON TRANSISTORS

SOT-323 CASE - MECHANICAL OUTLINE



LEAD CODE:

1) BASE
2) EMITTER
3) COLLECTOR

MARKING CODE:
CMST5088 - 1QC
CMST5089 - 1RC

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)

R1 (19-September 2001)