

CMST5086
CMST5087

**SURFACE MOUNT
SUPERmini™
PNP SILICON TRANSISTORS**

SUPERmini™



SOT-323 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMST5086, CMST5087 types are PNP 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: CMST5086: 2PC
CMST5087: 2QC**

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

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

SYMBOL		UNITS
V_{CBO}	50	V
V_{CEO}	50	V
V_{EBO}	3.0	V
I_C	50	mA
P_D	275	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	455	$^\circ\text{C}/\text{W}$

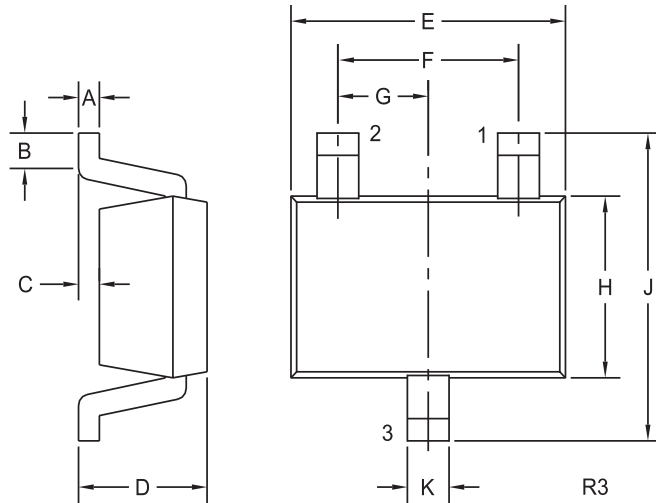
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMST5086		CMST5087		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=10\text{V}$		10		10	nA
I_{CBO}	$V_{CB}=35\text{V}$		50		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	50		50		V
BV_{CEO}	$I_C=1.0\text{mA}$	50		50		V
BV_{EBO}	$I_E=100\mu\text{A}$	3.0		3.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.30		0.30	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.85		0.85	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	150	500	250	800	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	150		250		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	150		250		
f_T	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	40		40		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		4.0		4.0	pF
h_{fe}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	150	600	250	900	
NF	$V_{CE}=5.0\text{V}, I_C=20\text{mA}, R_S=10\text{k}\Omega$ $f=10\text{Hz to }15.7\text{kHz}$		3.0		2.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=3.0\text{k}\Omega$ $f=1.0\text{kHz}$		3.0		2.0	dB

R2 (4-January 2004)

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SOT-323 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	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: R3)

**CMST5086
CMST5087**

LEAD CODE:

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

MARKING CODE:

CMST5086 - 2PC
CMST5087 - 2QC

