

**CMST2907A**  
**SURFACE MOUNT**  
**PNP SILICON TRANSISTOR**

**SUPERmini™**



**SOT-323 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMST2907A type is a PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ surface mount package, designed for small signal, general purpose and switching applications.

**MARKING CODE: 2FC**

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

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

SYMBOL		UNITS
$V_{CBO}$	60	V
$V_{CEO}$	60	V
$V_{EBO}$	5.0	V
$I_C$	600	mA
$P_D$	275	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\Theta_{JA}$	455	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=50\text{V}$		10	nA
$I_{CBO}$	$V_{CB}=50\text{V}, T_A=125^\circ\text{C}$		10	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=30\text{V}, V_{EB}=0.5\text{V}$		50	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60		V
$BV_{CEO}$	$I_C=10\text{mA}$	60		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50		
$f_T$	$V_{CE}=20\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	200		MHz

R4 (9-February 2010)

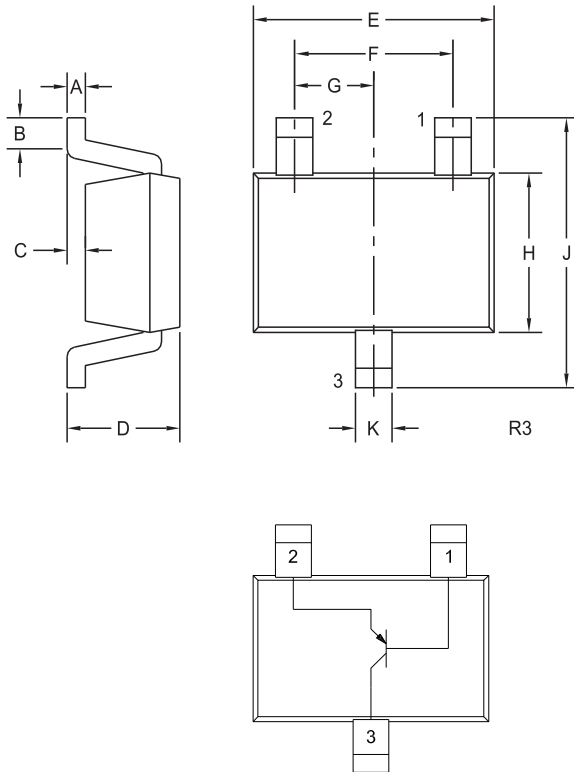
**CMST2907A**  
**SURFACE MOUNT**  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MAX	UNITS
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	8.0	pF
$C_{ib}$	$V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$	30	pF
$t_{on}$	$V_{CC}=30\text{V}, V_{BE}=0.5, I_C=150\text{mA}, I_{B1}=15\text{mA}$	45	ns
$t_d$	$V_{CC}=30\text{V}, V_{BE}=0.5, I_C=150\text{mA}, I_{B1}=15\text{mA}$	10	ns
$t_r$	$V_{CC}=30\text{V}, V_{BE}=0.5, I_C=150\text{mA}, I_{B1}=15\text{mA}$	40	ns
$t_{off}$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	100	ns
$t_s$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	80	ns
$t_f$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	30	ns

**SOT-323 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	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)

**LEAD CODE:**

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

**MARKING CODE: 2FC**

R4 (9-February 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> 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

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