

CMPT591E

ENHANCED SPECIFICATION SURFACE MOUNT PNP SILICON TRANSISTOR



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT591E type is an Enhanced version of the industry standard 591 PNP silicon transistor. This device is manufactured by the epitaxial planar process and epoxy molded in an SOT-23 surface mount package. The CMPT591E features Low $V_{CE(SAT)}$, high h_{FE} , and has been designed for high current general purpose amplifier applications.

MARKING CODE: C59

COMPLEMENTARY TYPE: CMPT491E

FEATURED ENHANCED SPECIFICATIONS:

- ◆ $V_{CE(SAT)}$ @ 1.0A = 0.6V MAX (from 0.4V MAX)
- ◆ h_{FE} @ 500mA = 200 MIN (from 100 MIN)

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	1.0	A
Continuous Base Current	I_B	200	mA
Peak Collector Current	I_{CM}	2.0	A
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}C$
Thermal Resistance	θ_{JA}	357	$^{\circ}C/W$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60V$		100	nA
I_{EBO}	$V_{EB}=4.0V$		100	nA
BV_{CBO}	$I_C=100\mu A$	80		V
BV_{CEO}	$I_C=10mA$	60		V
BV_{EBO}	$I_E=100\mu A$	5.0		V
◆ $V_{CE(SAT)}$	$I_C=500mA, I_B=50mA$		0.20	V
◆ $V_{CE(SAT)}$	$I_C=1.0A, I_B=100mA$		0.40	V
◆ $V_{BE(SAT)}$	$I_C=1.0A, I_B=100mA$		1.1	V
$V_{BE(ON)}$	$V_{CE}=5.0V, I_C=1.0A$		1.0	V
◆ h_{FE}	$V_{CE}=5.0V, I_C=1.0mA$	200		
◆ h_{FE}	$V_{CE}=5.0V, I_C=500mA$	200	600	
h_{FE}	$V_{CE}=5.0V, I_C=1.0A$	50		
h_{FE}	$V_{CE}=5.0V, I_C=2.0A$	15		
f_T	$V_{CE}=10V, I_C=50mA, f=100MHz$	150		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		10	pF

◆ Enhanced specification

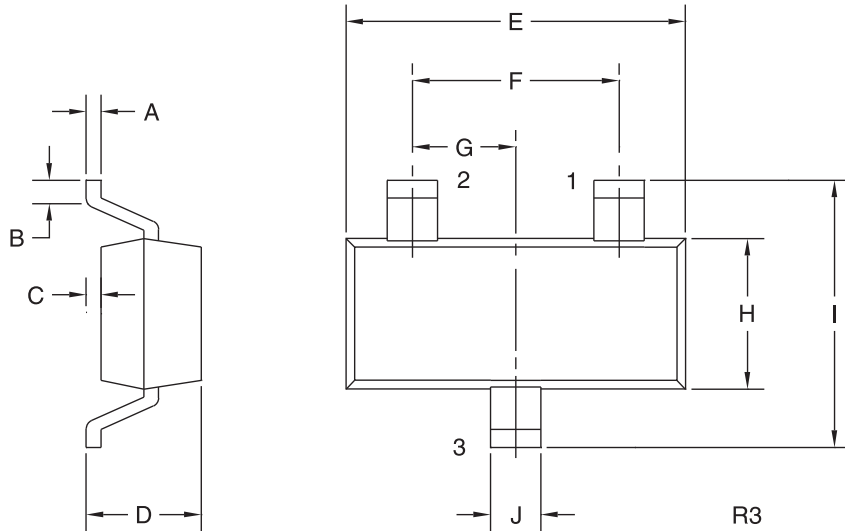
R3 (27-January 2010)

CMPT591E

**ENHANCED SPECIFICATION
SURFACE MOUNT
PNP SILICON TRANSISTOR**



SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C59

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)

R3 (27-January 2010)