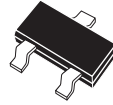




CMPT7820

**SURFACE MOUNT
VERY LOW $V_{CE(SAT)}$
PNP SILICON TRANSISTOR**



SOT-23 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT7820 is a very low $V_{CE(SAT)}$ PNP Transistor, designed for applications where size and efficiency are prime requirements. Packaged in an industry standard SOT-23, this device brings updated electrical specifications and characteristics suitable for the most demanding designs.

MARKING CODE: 78C

APPLICATIONS:

- DC/DC Converters
- Voltage Clamping
- Protection Circuits
- Battery powered Cell Phones, Pagers, Digital Cameras, PDAs, Laptops, etc.

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

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

FEATURES:

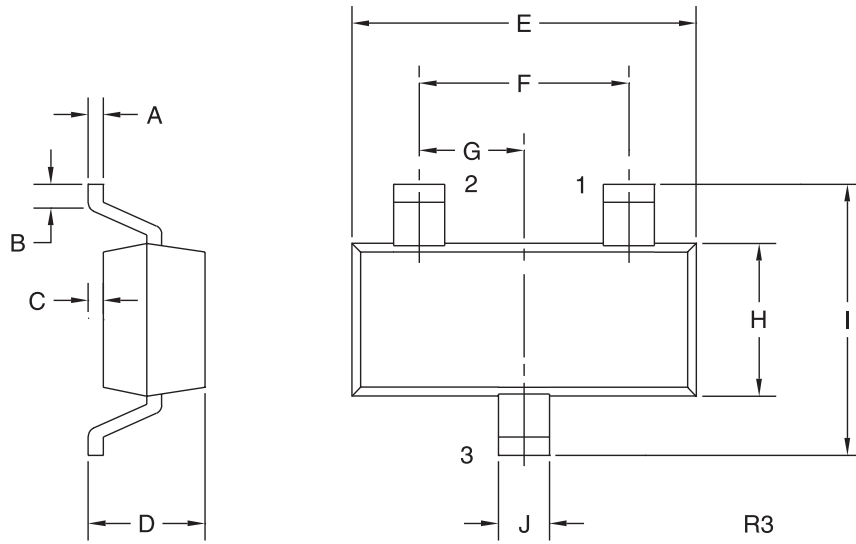
- Device is **Halogen Free** by design
- High Current ($I_C=1.0\text{A}$)
- $V_{CE(SAT)}=0.34\text{V MAX @ } I_C=1.0\text{A}$
- SOT-23 surface mount package
- Complementary NPN device **CMPT3820**

SYMBOL		UNITS
V_{CBO}	80	V
V_{CEO}	60	V
V_{EBO}	5.0	V
I_C	1.0	A
I_{CM}	2.0	A
I_B	300	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$		100	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	80		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=100\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=1.0\text{mA}$		0.175	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.18	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.34	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=50\text{mA}$		1.1	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$		0.9	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	200		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	150		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$	100		
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$	150		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		15	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: 78C

SYMBOL	DIMENSIONS			
	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)