

CMPT6517 NPN
CMPT6520 PNP

**SURFACE MOUNT
COMPLEMENTARY HIGH VOLTAGE
SILICON TRANSISTORS**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT6517 and CMPT6520 are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage driver and amplifier applications.

**MARKING CODES: CMPT6517: C1Z
CMPT6520: C2Z**

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

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

SYMBOL

SYMBOL		UNITS
V_{CBO}	350	V
V_{CEO}	350	V
V_{EBO}	5.0	V
I_C	500	mA
I_B	250	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=250\text{V}$		50	nA
I_{EBO}	$V_{EB}=5.0\text{V}$ (CMPT6517)		50	nA
I_{EBO}	$V_{EB}=4.0\text{V}$ (CMPT6520)		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	350		V
BV_{CEO}	$I_C=1.0\text{mA}$	350		V
BV_{EBO}	$I_E=10\mu\text{A}$ (CMPT6517)	6.0		V
BV_{EBO}	$I_E=10\mu\text{A}$ (CMPT6520)	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.30	V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.35	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.85	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.90	V
$V_{BE(ON)}$	$I_C=10\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	20		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	30		

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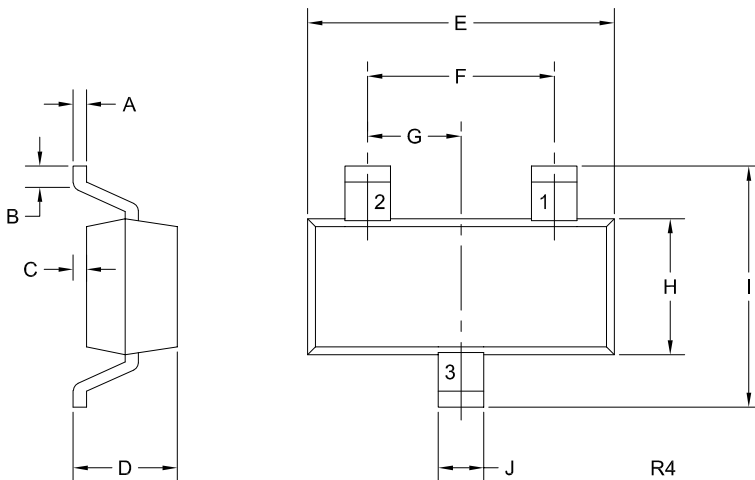
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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=10\text{V}$, $I_C=30\text{mA}$	30	200	
h_{FE}	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$	20	200	
h_{FE}	$V_{CE}=10\text{V}$, $I_C=100\text{mA}$	15		
f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=20\text{MHz}$	40	200	MHz
C_{cb}	$V_{CE}=20\text{V}$, $I_C=0$, $f=1.0\text{MHz}$		6.0	pF
C_{eb}	$V_{EB}=0.5\text{V}$, $I_E=0$, $f=1.0\text{MHz}$ (CMPT6517)		95	pF
C_{eb}	$V_{EB}=0.5\text{V}$, $I_E=0$, $f=1.0\text{MHz}$ (CMPT6520)		100	pF

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMPT6517: C1Z

CMPT6520: C2Z

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	0.044	0.89	1.12
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	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R4)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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