

MPS6520
MPS6521

SILICON
NPN TRANSISTORS



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TO-92 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPS6520 and MPS6521 are silicon NPN epitaxial transistors designed for complementary amplifier applications requiring low noise and high DC current gains. The PNP complementary devices are MPS6522 and MPS6523 respectively.

MARKING: FULL PART NUMBER

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	

SYMBOL		UNITS
V_{CBO}	40	V
V_{CEO}	25	V
V_{EBO}	4.0	V
I_C	100	mA
P_D	625	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$			50	nA
I_{CBO}	$V_{CB}=30\text{V}, T_A=60^\circ\text{C}$			1.0	μA
BV_{CEO}	$I_C=500\mu\text{A}$	25			V
BV_{EBO}	$I_E=10\mu\text{A}$	4.0			V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$			0.5	V
f_T	$V_{CE}=10\text{V}, I_C=2.0\text{mA}$		300		MHz
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}$		400		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$			3.5	pF
NF	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A},$ $R_S=10\text{K}\Omega, BW=15.7\text{kHz},$ 3.0dB points @ 10Hz and 10kHz			3.0	dB

SYMBOL	TEST CONDITIONS	MPS6520		MPS6521	
		MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=10\text{V}, I_C=100\mu\text{A}$	100	-	150	-
h_{FE}	$V_{CE}=10\text{V}, I_C=2.0\text{mA}$	200	400	300	600

R1 (11-November 2014)

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TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R1 (11-November 2014)

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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

DESIGNER SUPPORT/SERVICES

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- 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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