

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

www.centralsemi.com

NPN	PNP
MPS6512	MPS6516
MPS6513	MPS6517
MPS6514	MPS6518
MPS6515	MPS6519

**COMPLEMENTARY
SILICON TRANSISTORS**

JEDEC TO-92 CASE

DESCRIPTION

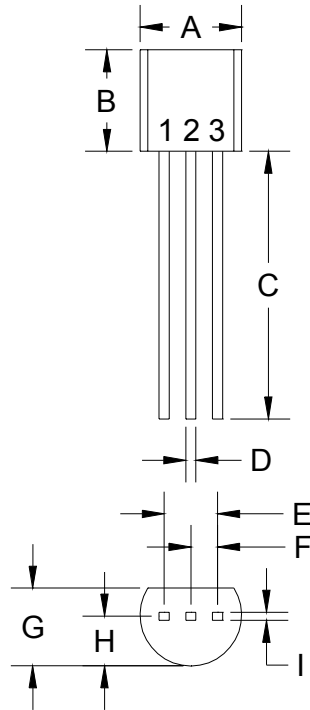
The CENTRAL SEMICONDUCTOR MPS6512 Series (NPN) and MPS6516 Series (PNP) types are molded Epoxy Silicon Small Signal Transistors designed for general-purpose amplifier applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	<u>SYMBOL</u>	MPS6512 MPS6513	MPS6514 MPS6515	MPS6516 MPS6517 MPS6518	MPS6519	<u>UNITS</u>
Collector-Base Voltage	V_{CBO}	40	40	40	25	V
Collector-Emitter Voltage	V_{CEO}	30	25	40	25	V
Emitter-Base Voltage	V_{EBO}		4.0			V
Collector Current	I_C		100			mA
Power Dissipation	P_D		625			mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D		1.5			W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JC}		83.3			$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		200			$^\circ\text{C/W}$

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	MPS6512 MPS6513 <u>MIN</u> <u>MAX</u>	MPS6514 MPS6515 <u>MIN</u> <u>MAX</u>	MPS6516 MPS6517 MPS6518 <u>MIN</u> <u>MAX</u>	MPS6519 <u>MIN</u> <u>MAX</u>	<u>UNITS</u>
I_{CBO}	$V_{CB}=30\text{V}$	50	50	50	-	nA
I_{CBO}	$V_{CB}=20\text{V}$	-	-	-	50	nA
BV_{CEO}	$I_C=0.5\text{mA}$	30	25	40	25	V
BV_{EBO}	$I_E=10\mu\text{A}$	4.0	4.0	4.0	4.0	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	0.5	0.5	0.5	0.5	V
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$	3.5	3.5	4.0	4.0	pF
<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	MPS6512 MPS6516 <u>MIN</u> <u>MAX</u>	MPS6513 MPS6517 <u>MIN</u> <u>MAX</u>	MPS6514 MPS6518 <u>MIN</u> <u>MAX</u>	MPS6515 MPS6519 <u>MIN</u> <u>MAX</u>	
h_{FE}	$V_{CE}=10\text{V}, I_C=2.0\text{mA}$	50 100	90 180	150 300	250 500	
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	30	60	90	150	

TO-92 PACKAGE - 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

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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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