

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

www.centrasemi.com

<b>NPN</b>	<b>PNP</b>
<b>MPS6512</b>	<b>MPS6516</b>
<b>MPS6513</b>	<b>MPS6517</b>
<b>MPS6514</b>	<b>MPS6518</b>
<b>MPS6515</b>	<b>MPS6519</b>

**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)

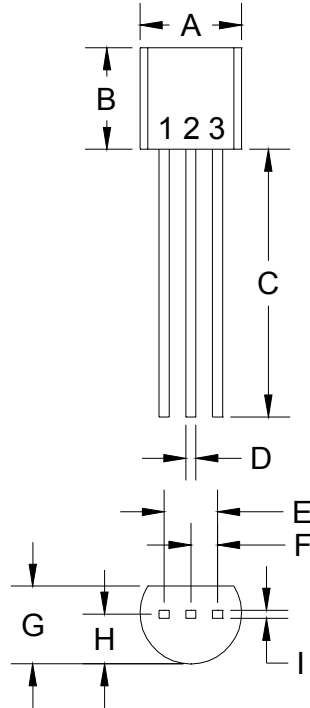
	<u>SYMBOL</u>	MPS6512 MPS6513	MPS6514 MPS6515	MPS6516 MPS6517 MPS6518	MPS6519	<u>UNITS</u>
Collector-Base Voltage	$V_{CBO}$	40	40	40	25	V
Collector-Emitter Voltage	$V_{CEO}$	30	25	40	25	V
Emitter-Base Voltage	$V_{EBO}$		4.0			V
Collector Current	$I_C$		100			mA
Power Dissipation	$P_D$		625			mW
Power 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	$\theta_{JC}$		83.3			$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JA}$		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	

(Continued)

R0

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

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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

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### DESIGNER SUPPORT/SERVICES

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- Free quick ship samples (2<sup>nd</sup> day air)
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- 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

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### 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).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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