

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

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Manufacturers of World Class Discrete Semiconductors

NPN	PNP
MPS6601	MPS6651
MPS6602	MPS6652

COMPLEMENTARY HIGH CURRENT  
AMPLIFIER TRANSISTORS

JEDEC TO-92 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS6601, MPS6602, MPS6651, and MPS6652 types are Silicon Complementary Transistors designed for high current amplifier applications.

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

	SYMBOL	MPS6601 MPS6651	MPS6602 MPS6652	UNITS
Collector-Base Voltage	V <sub>CB0</sub>	25	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	25	40	V
Emitter-Base Voltage	V <sub>EBO</sub>	4.0		V
Collector Current	I <sub>C</sub>	1.0		A
Power Dissipation	P <sub>D</sub>	625		mW
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	1.5		W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150		°C
Thermal Resistance	θ <sub>JA</sub>	200		°C/W
Thermal Resistance	θ <sub>JC</sub>	83.3		°C/W

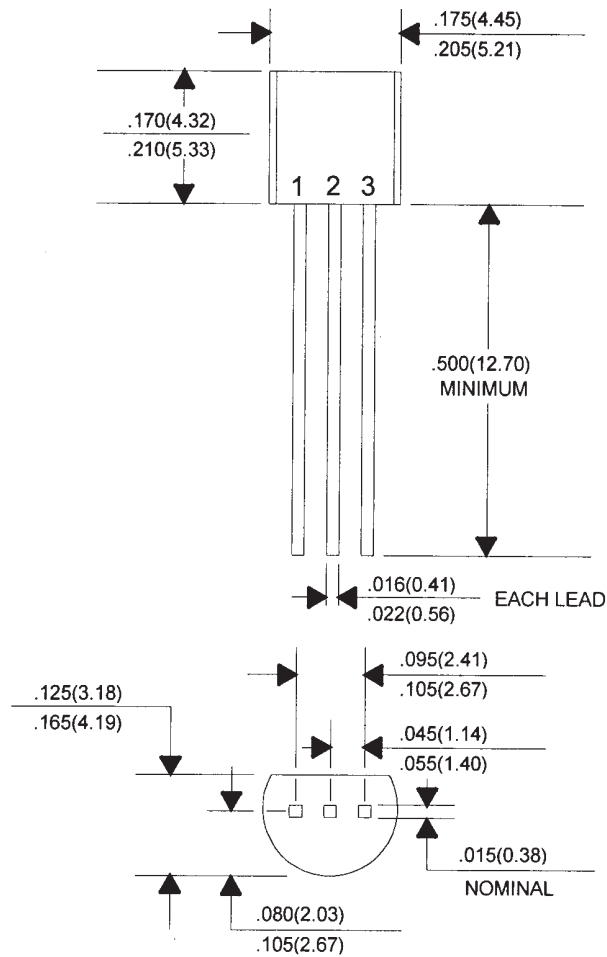
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MPS6601 MPS6651		MPS6602 MPS6652		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CBO</sub>	V <sub>CB</sub> =25V		100			nA
I <sub>CBO</sub>	V <sub>CB</sub> =30V			100		nA
I <sub>CES</sub>	V <sub>CE</sub> =25V		100			nA
I <sub>CES</sub>	V <sub>CE</sub> =30V			100		nA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	25		40		V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	25		40		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	4.0		4.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =100mA		0.6		0.6	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =500mA		1.2		1.2	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =100mA	50		50		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =500mA	50		50		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =1.0A	30		30		
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA, f=100MHz	100		100		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz		50		50	pF
t <sub>d</sub>	V <sub>CC</sub> =40V, I <sub>C</sub> =500mA, I <sub>B1</sub> =50mA		25		25	ns
t <sub>r</sub>	V <sub>CC</sub> =40V, I <sub>C</sub> =500mA, I <sub>B1</sub> =50mA		30		30	ns
t <sub>s</sub>	V <sub>CC</sub> =40V, I <sub>C</sub> =500mA, I <sub>B1</sub> =50mA		250		250	ns
t <sub>f</sub>	V <sub>CC</sub> =40V, I <sub>C</sub> =500mA, I <sub>B1</sub> =50mA		50		50	ns

(See Reverse Side)

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# JEDEC TO-92 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

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

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

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

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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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