

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

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Manufacturers of World Class Discrete Semiconductors

MPS3704  
MPS3705  
MPS3706

SILICON NPN TRANSISTOR

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS3704 thru MPS3706 are NPN silicon planar transistors for general purpose switching and amplifier applications.

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

	SYMBOL	MPS3704		UNIT
		MPS3705	MPS3706	
Collector-Base Voltage	$V_{CB0}$	50	40	V
Collector-Emitter Voltage	$V_{CE0}$	30	20	V
Emitter-Base Voltage	$V_{EB0}$	5.0	5.0	V
Collector Current	$I_C$	600	600	mA
Power Dissipation	$P_D$	625	625	mW
Operating and Storage Junction Temperature	$T_J, T_{STG}$	-65 TO +150		$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

SYMBOL	TEST CONDITIONS	MPS3704		MPS3705		MPS3706		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{CB0}$	$V_{CB}=20\text{V}$		100		100		100	nA
$I_{EB0}$	$V_{EB}=3.0\text{V}$		100		100		100	nA
$BV_{CB0}$	$I_C=100\mu\text{A}$	50		50		40		V
$BV_{CE0}$	$I_C=10\text{mA}$	30		30		20		V
$BV_{EB0}$	$I_E=100\mu\text{A}$	5.0		5.0		5.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.6		0.8		1.0	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	0.5	1.0	0.5	1.0	0.5	1.0	V
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	100	300	50	100	30	600	
$f_T$	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	100		100		100		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		12		12		12	pF

## 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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