

MPS650 MPS651 NPN
MPS750 MPS751 PNP

**COMPLEMENTARY
SILICON TRANSISTORS**



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPS650, MPS750 series devices are complementary silicon transistors designed for general purpose amplifier and switching applications requiring high gain at high collector current.

MARKING: FULL PART NUMBER

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

	SYMBOL	MPS650 MPS750	MPS651 MPS751	UNITS
Collector-Base Voltage	V_{CBO}	60	80	V
Collector-Emitter Voltage	V_{CEO}	40	60	V
Emitter-Base Voltage	V_{EBO}		5.0	V
Continuous Collector Current	I_C		2.0	A
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_{JA}		200	$^\circ\text{C/W}$
Thermal Resistance	θ_{JC}		83.3	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MPS650 MPS750		MPS651 MPS751		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=60\text{V}$	-	100	-	-	nA
I_{CBO}	$V_{CB}=80\text{V}$	-	-	-	100	nA
I_{EBO}	$V_{EB}=4.0\text{V}$	-	100	-	100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	60	-	80	-	V
BV_{CEO}	$I_C=10\text{mA}$	40	-	60	-	V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$	-	0.3	-	0.3	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$	-	0.5	-	0.5	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$	-	1.2	-	1.2	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	-	1.0	-	1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	75	-	75	-	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	75	-	75	-	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	75	-	75	-	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	40	-	40	-	
f_T	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	75	-	75	-	MHz

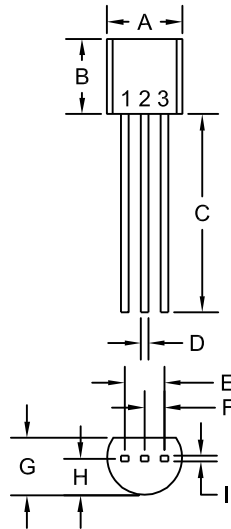
R1 (2-December 2014)

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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	

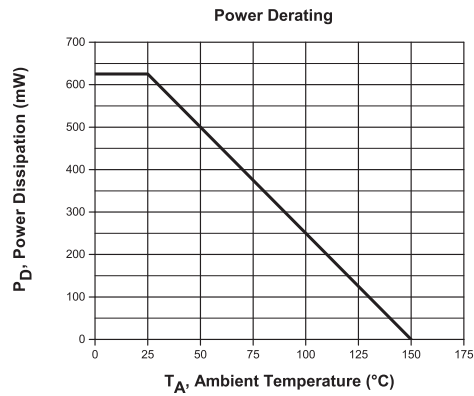
TO-92 (REV: R1)

LEAD CODE:

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

MARKING:
FULL PART NUMBER

TYPICAL ELECTRICAL CHARACTERISTICS



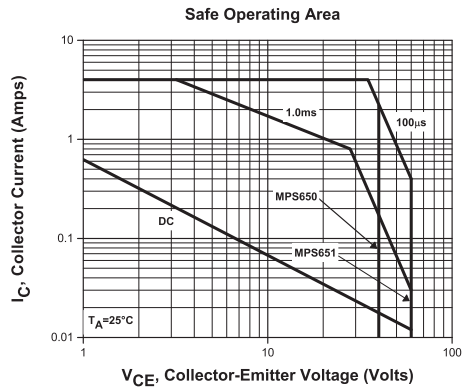
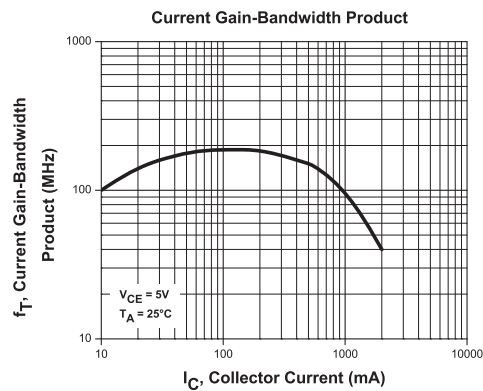
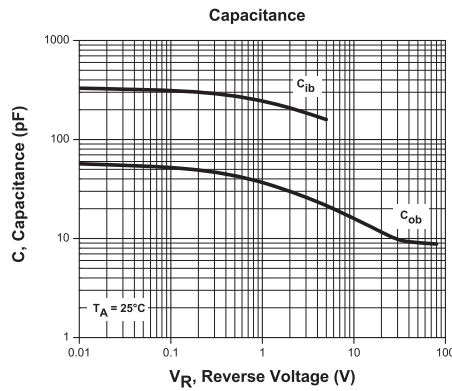
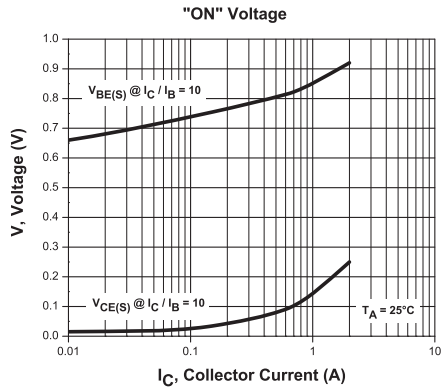
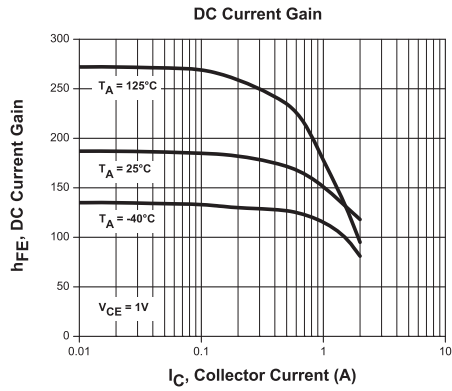
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NPN TYPICAL ELECTRICAL CHARACTERISTICS



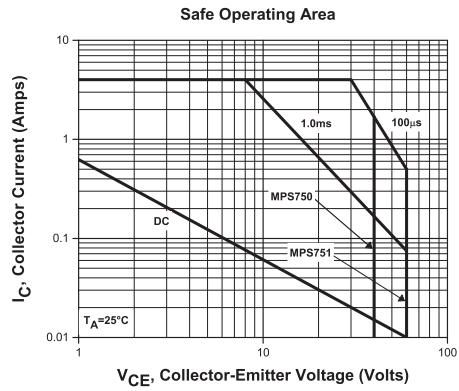
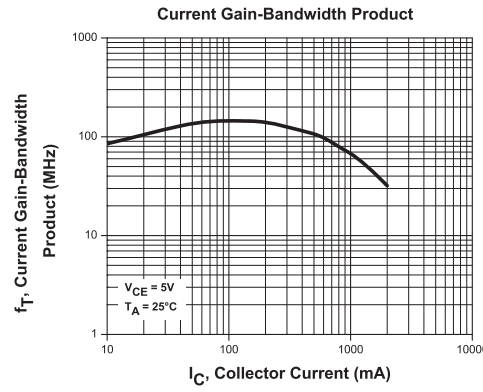
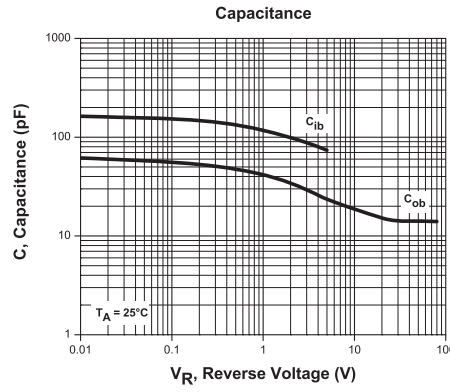
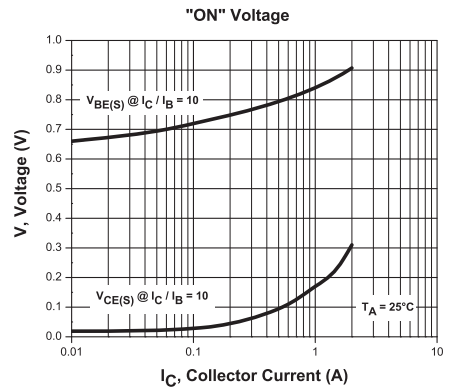
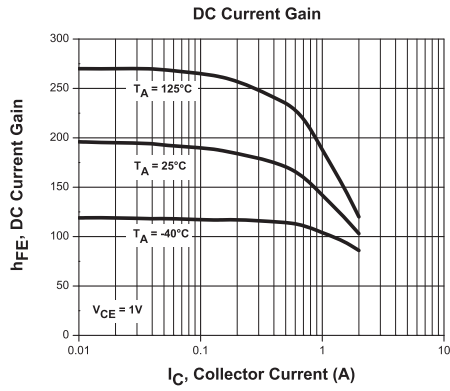
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PNP TYPICAL ELECTRICAL CHARACTERISTICS



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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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