

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	MPS651	UNITS
	MPS750	MPS751	
Collector-Base Voltage	V_{CB0} 60	80	V
Collector-Emitter Voltage	V_{CE0} 40	60	V
Emitter-Base Voltage	V_{EB0}	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		MPS651		UNITS
		MPS750	MIN	MAX	MIN	
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_{CE0}	$I_C=10\text{mA}$	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

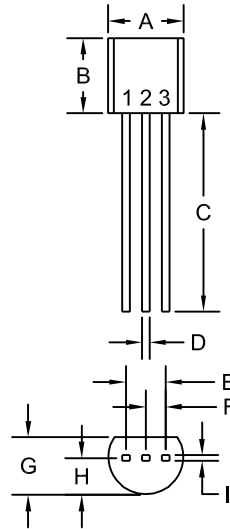
R1 (2-December 2014)

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TO-92 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	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:

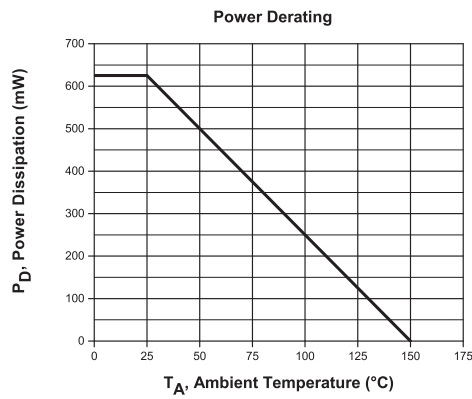
- 1) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

R1

TYPICAL ELECTRICAL CHARACTERISTICS



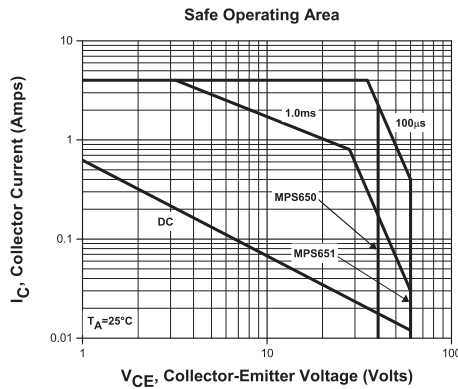
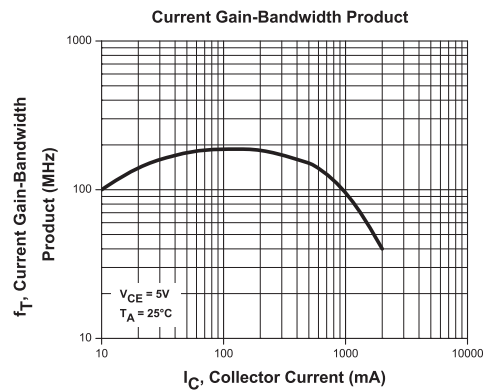
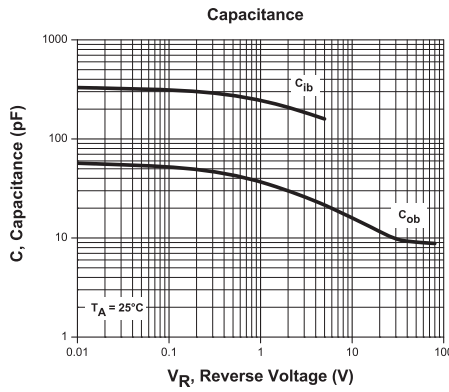
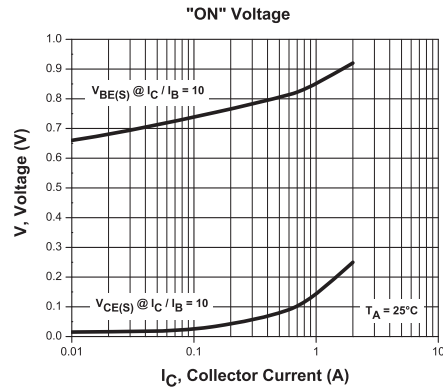
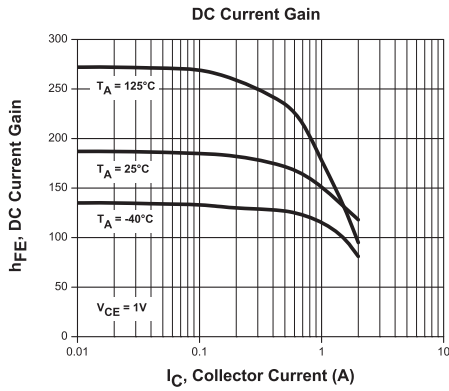
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NPN TYPICAL ELECTRICAL CHARACTERISTICS



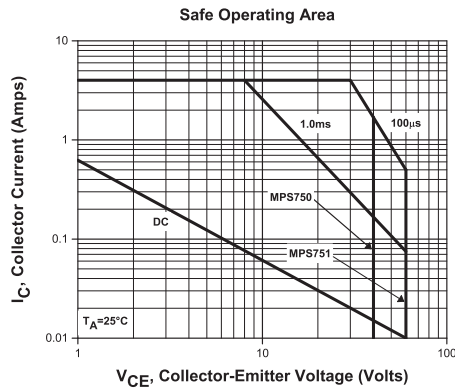
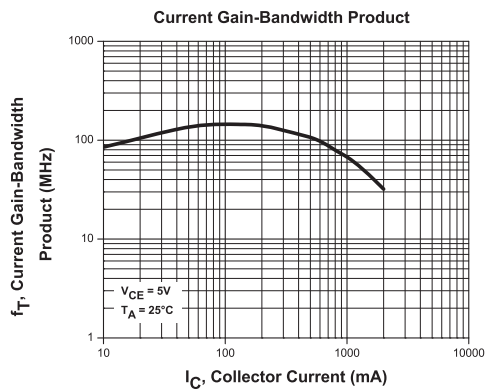
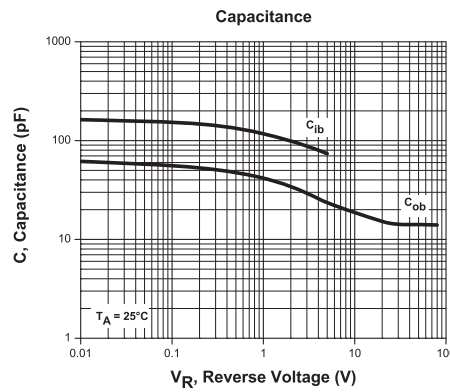
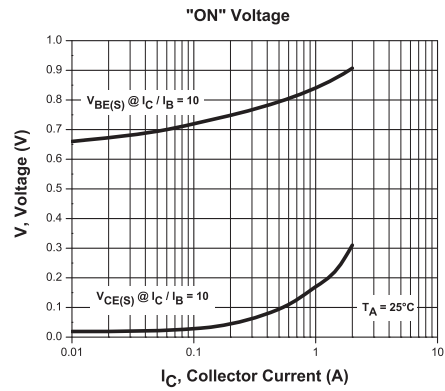
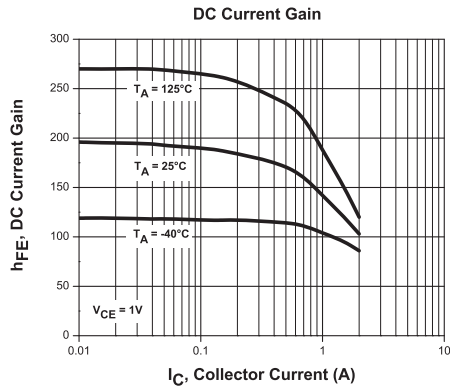
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PNP TYPICAL ELECTRICAL CHARACTERISTICS



R1 (2-December 2014)

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