

MPSA44
MPSA45

SILICON
HIGH VOLTAGE
NPN TRANSISTORS



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPSA44 and MPSA45 are silicon NPN transistors designed for high voltage applications.

MARKING: FULL PART NUMBER

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	MPSA44	MPSA45	UNITS
V_{CBO}	500	400	V
V_{CEO}	400	350	V
V_{EBO}	6.0		V
I_C	300		mA
P_D	625		mW
T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Θ_{JA}	200		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MPSA44		MPSA45		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=400\text{V}$	-	100	-	-	nA
I_{CBO}	$V_{CB}=320\text{V}$	-	-	-	100	nA
I_{CES}	$V_{CE}=400\text{V}$	-	500	-	-	nA
I_{CES}	$V_{CE}=320\text{V}$	-	-	-	500	nA
I_{EBO}	$V_{EB}=4.0\text{V}$	-	100	-	100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	500	-	400	-	V
BV_{CES}	$I_C=100\mu\text{A}$	500	-	400	-	V
BV_{CEO}	$I_C=1.0\text{mA}$	400	-	350	-	V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0	-	6.0	-	V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$	-	0.40	-	0.40	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.50	-	0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.75	-	0.75	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.75	-	0.75	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40	-	40	-	
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	50	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	45	-	45	-	
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40	-	40	-	
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$	20	-	20	-	MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$	-	6.0	-	6.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$	-	110	-	110	pF

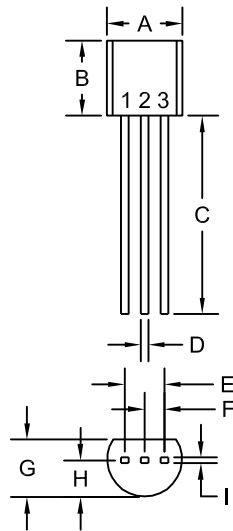
R1 (18-March 2014)

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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**

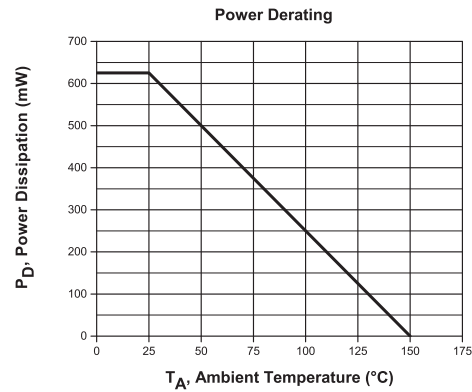
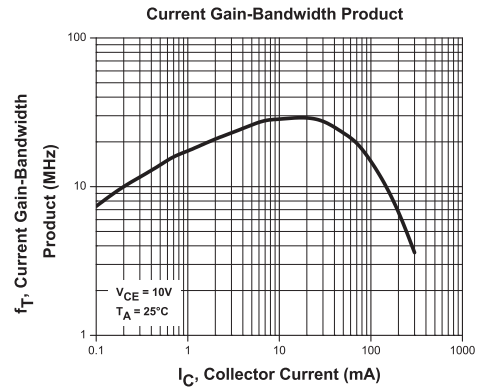
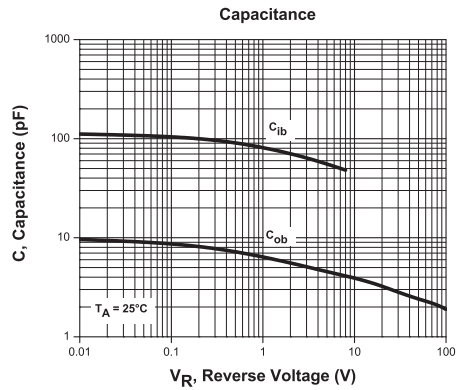
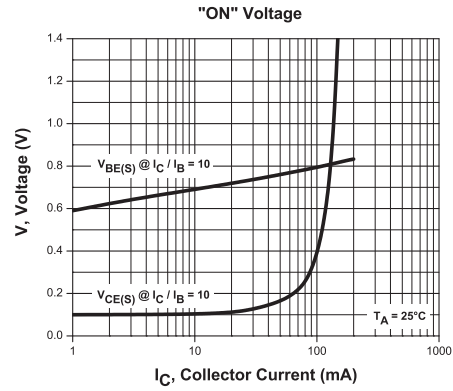
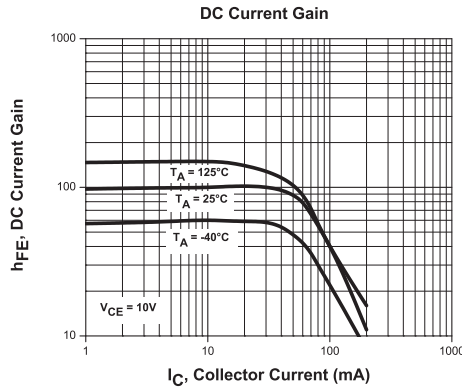
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TYPICAL ELECTRICAL CHARACTERISTICS



R1 (18-March 2014)

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).

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