

MPSA12
MPSA13
MPSA14

SILICON
NPN DARLINGTON TRANSISTORS



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPSA12 series devices are silicon NPN Darlington transistors, manufactured by the epitaxial planar process, designed for applications requiring extremely high gain.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C)

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

SYMBOL	MPSA12	MPSA13	MPSA14	UNITS
V _{CB0}	-	30	30	V
V _{CES}	20	30	30	V
V _{EBO}		10		V
I _C		500		mA
P _D		625		mW
T _J , T _{stg}		-65 to +150		°C
θ _{JA}		200		°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C)

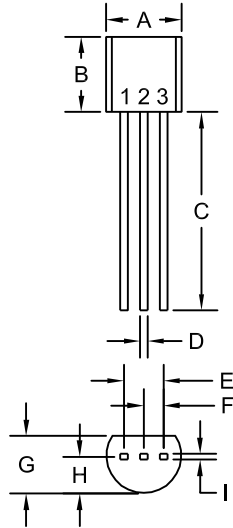
SYMBOL	TEST CONDITIONS	MPSA12		MPSA13		MPSA14		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{CB0}	V _{CB} =15V	-	100	-	-	-	-	nA
I _{CB0}	V _{CB} =30V	-	-	-	100	-	100	nA
I _{CES}	V _{CE} =15V	-	100	-	-	-	-	nA
I _{EBO}	V _{EB} =10V	-	100	-	100	-	100	nA
BV _{CES}	I _C =100μA	20	-	30	-	30	-	V
V _{CE(SAT)}	I _C =10mA, I _B =10μA	-	1.0	-	-	-	-	V
V _{CE(SAT)}	I _C =100mA, I _B =100μA	-	-	-	1.5	-	1.5	V
V _{BE(ON)}	V _{CE} =5.0V, I _B =10mA	-	1.4	-	-	-	-	V
V _{BE(ON)}	V _{CE} =5.0V, I _B =100mA	-	-	-	2.0	-	2.0	V
h _{FE}	V _{CE} =5.0V, I _C =10mA	20K	-	5K	-	10K	-	
h _{FE}	V _{CE} =5.0V, I _C =100mA	-	-	10K	-	20K	-	
f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	-	-	125	-	125	-	MHz

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TO-92 CASE - MECHANICAL OUTLINE



R1

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

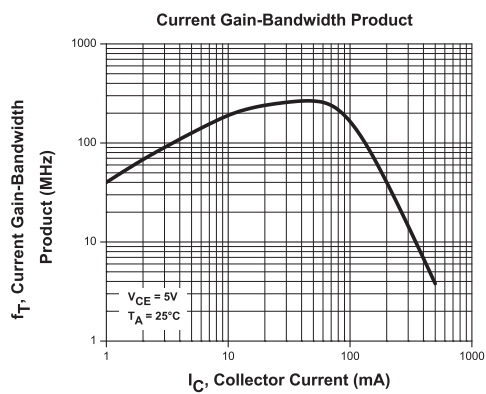
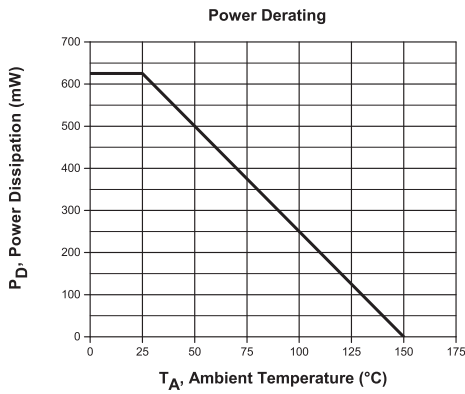
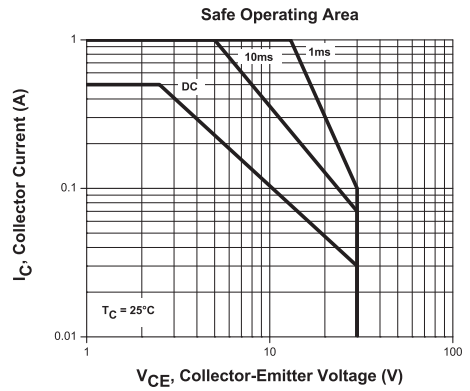
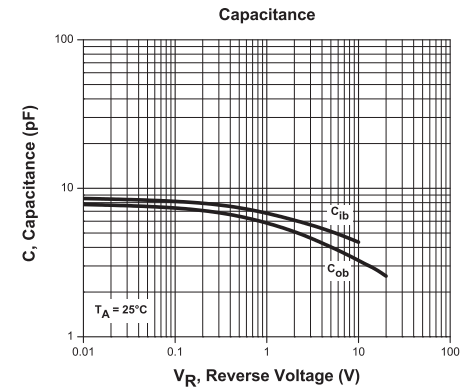
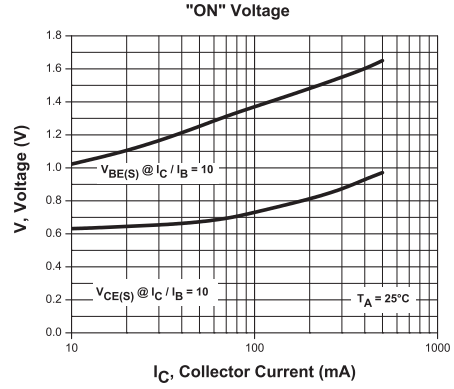
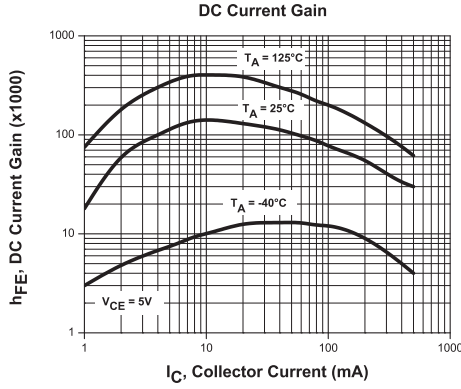
R1 (18-March 2014)

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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

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