

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

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

SYMBOL	MPSA12	MPSA13	MPSA14	UNITS
V_{CBO}	-	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		$^\circ\text{C}$
Θ_{JA}		200		$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	MPSA12		MPSA13		MPSA14		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=15\text{V}$	-	100	-	-	-	-	nA
I_{CBO}	$V_{CB}=30\text{V}$	-	-	-	100	-	100	nA
I_{CES}	$V_{CE}=15\text{V}$	-	100	-	-	-	-	nA
I_{EBO}	$V_{EB}=10\text{V}$	-	100	-	100	-	100	nA
BV_{CES}	$I_C=100\mu\text{A}$	20	-	30	-	30	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=10\mu\text{A}$	-	1.0	-	-	-	-	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=100\mu\text{A}$	-	-	-	1.5	-	1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_B=10\text{mA}$	-	1.4	-	-	-	-	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_B=100\text{mA}$	-	-	-	2.0	-	2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	20K	-	5K	-	10K	-	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	-	-	10K	-	20K	-	
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	-	-	125	-	125	-	MHz

R1 (18-March 2014)

MPSA12
MPSA13
MPSA14

SILICON
NPN DARLINGTON TRANSISTORS



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

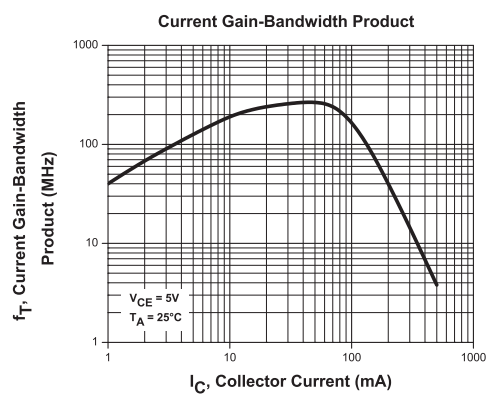
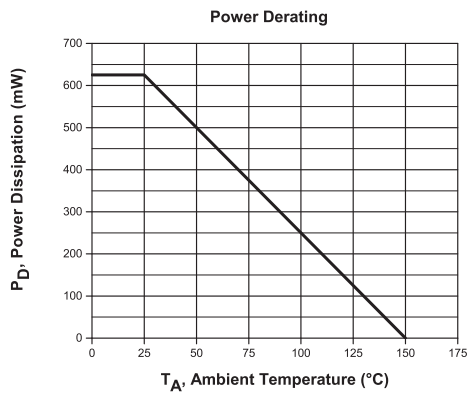
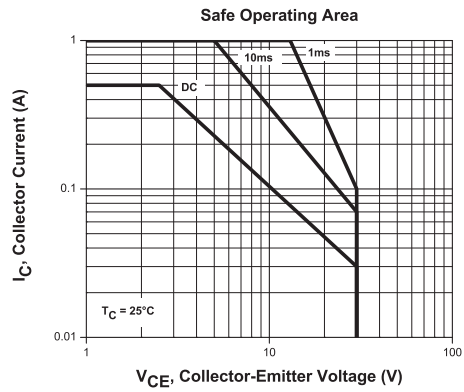
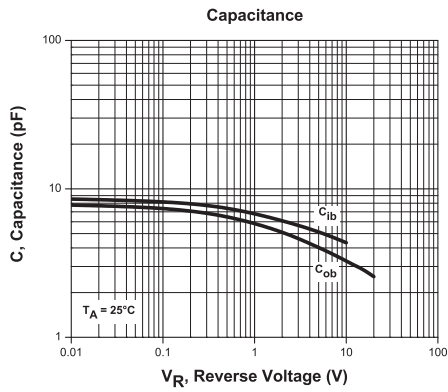
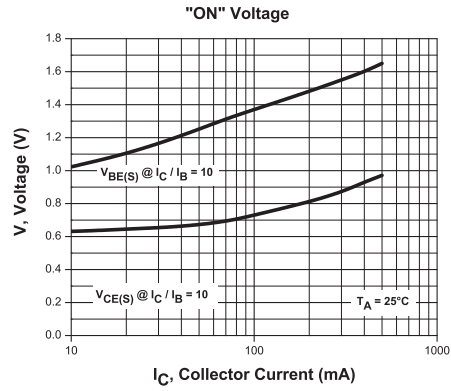
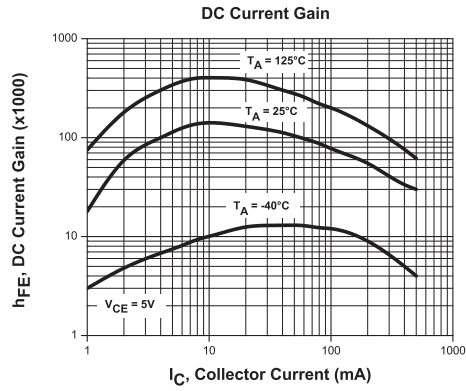
R1 (18-March 2014)

MPSA12
MPSA13
MPSA14

SILICON
NPN DARLINGTON TRANSISTORS



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).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

Worldwide Distributors:
www.centalsemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centalsemi.com/terms

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Central Semiconductor manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MJ15024/WS](#) [MJ15025/WS](#) [BC546/116](#) [BC556/FSC](#) [BC557/116](#) [BSW67A](#) [HN7G01FU-A\(T5L,F,T](#)
[NJVMJD148T4G](#) [NSVMMBT6520LT1G](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE2353](#) [NTE316](#) [IMX9T110](#) [NTE63](#) [NTE65](#)
[C4460](#) [SBC846BLT3G](#) [2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA1727TLP](#) [2SA2126-E](#) [2SB1202T-TL-E](#) [2SB1204S-TL-E](#) [2SC5488A-](#)
[TL-H](#) [2SD2150T100R](#) [SP000011176](#) [FMC5AT148](#) [2N2369ADCSM](#) [2SB1202S-TL-E](#) [2SC2412KT146S](#) [2SC4618TLN](#) [2SC5490A-TL-H](#)
[2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#) [BC557B](#) [TTC012\(Q\)](#) [BULD128DT4](#) [JANTX2N3810](#)
[Jantx2N5416](#) [US6T6TR](#) [KSF350](#) [068071B](#)