

MPSA28
MPSA29

SILICON
NPN DARLINGTON TRANSISTORS



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPSA28 and MPSA29 are silicon NPN Darlington transistors manufactured by the epitaxial planar process and 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
Thermal Resistance

SYMBOL	MPSA28	MPSA29	UNITS
V_{CBO}	80	100	V
V_{CES}	80	100	V
V_{EBO}	12		V
I_C	500		mA
P_D	625		mW
T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Θ_{JA}	200		$^\circ\text{C/W}$
Θ_{JC}	83.3		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MPSA28		MPSA29		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=60\text{V}$	-	100	-	-	nA
I_{CBO}	$V_{CB}=80\text{V}$	-	-	-	100	nA
I_{CES}	$V_{CE}=60\text{V}$	-	500	-	-	nA
I_{CES}	$V_{CE}=80\text{V}$	-	-	-	500	nA
I_{EBO}	$V_{EB}=10\text{V}$	-	100	-	100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	80	-	100	-	V
BV_{CES}	$I_C=100\mu\text{A}$	80	-	100	-	V
BV_{EBO}	$I_E=10\mu\text{A}$	12	-	12	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=10\mu\text{A}$	-	1.2	-	1.2	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=100\mu\text{A}$	-	1.5	-	1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	-	2.0	-	2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000	-	10,000	-	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000	-	10,000	-	
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125	-	125	-	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	8.0	-	8.0	pF

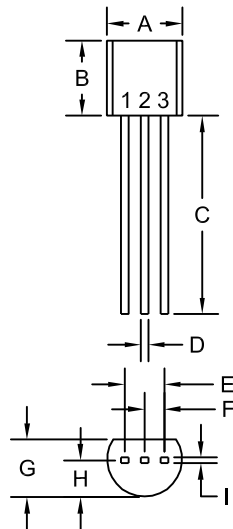
R0 (28-May 2013)

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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

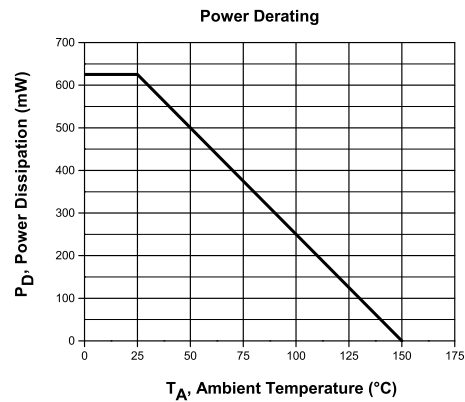
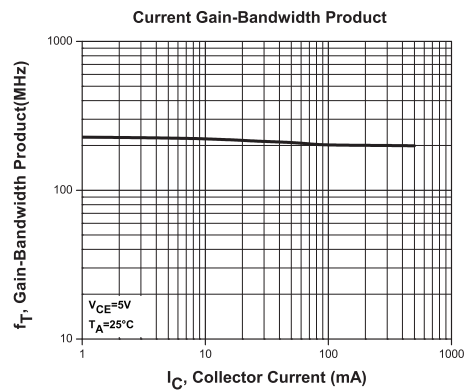
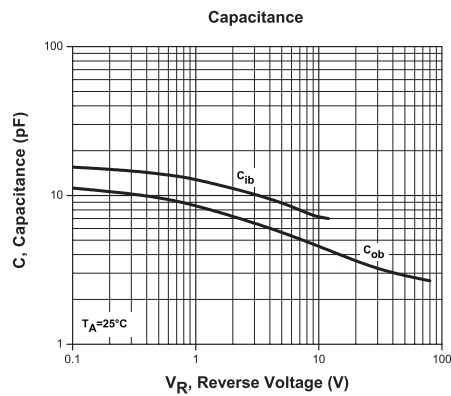
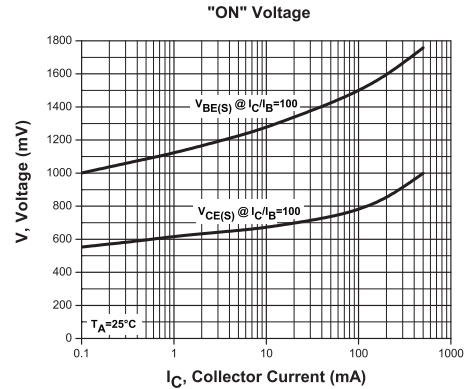
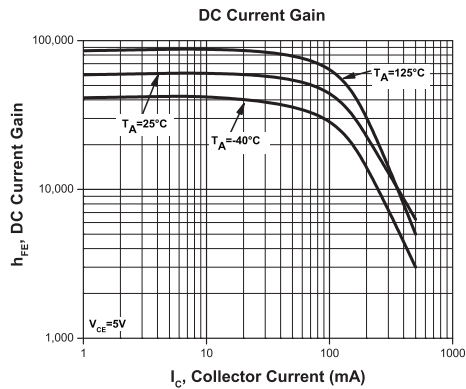
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TYPICAL ELECTRICAL CHARACTERISTICS



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