

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		$^\circ\text{C}$
$\theta_{JA}$		200	$^\circ\text{C/W}$
$\theta_{JC}$		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)

MPSA28  
MPSA29

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:

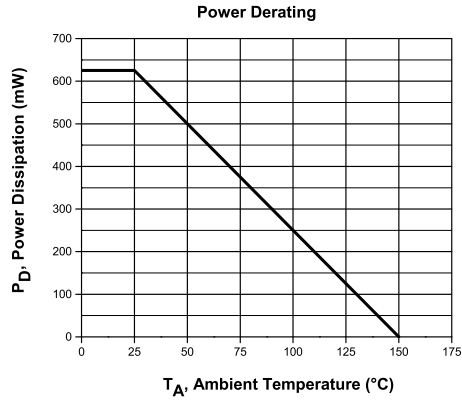
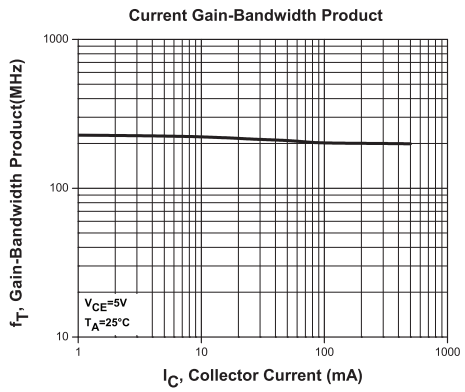
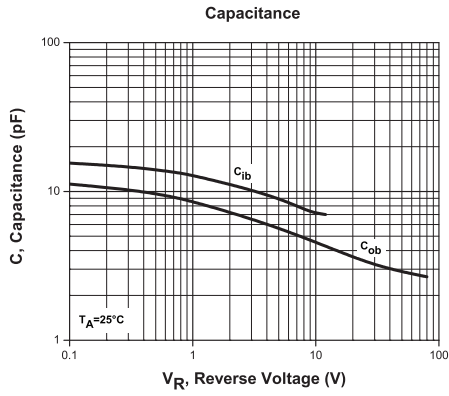
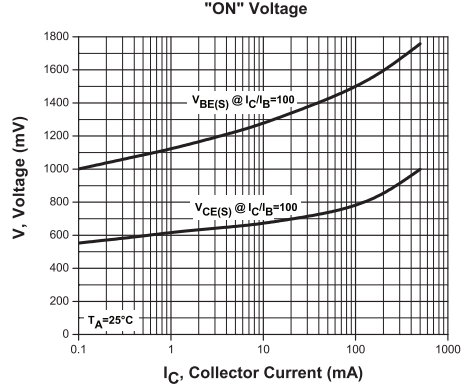
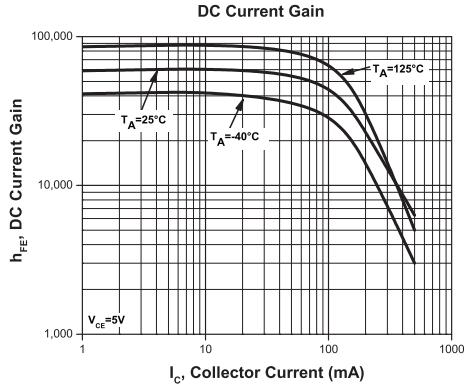
FULL PART NUMBER

R0 (28-May 2013)

**MPSA28**  
**MPSA29**  
  
**SILICON**  
**NPN DARLINGTON TRANSISTORS**



**TYPICAL ELECTRICAL CHARACTERISTICS**



R0 (28-May 2013)