

High Voltage Transistor

PNP Silicon

PZTA92T1G, NSVPZTA92T1G

Features

- Complement to PZTA42T1G
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-300	Vdc
Collector-Base Voltage	V _{CB0}	-300	Vdc
Emitter-Base Voltage	V _{EBO}	-5.0	Vdc
Collector Current	I _C	-500	mAdc
Total Power Dissipation up to @ T _A = 25°C (Note 1)	P _D	1.5	W
Storage Temperature Range	T _{stg}	-65 to +150	°C
Junction Temperature	T _J	150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

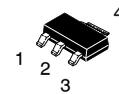
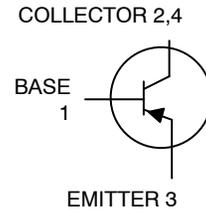
1. Device mounted on a FR-4 glass epoxy printed circuit board
1.575 in x 1.575 in x 0.0625 in; mounting pad for the collector lead = 0.93 sq in.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient (Note 2)	R _{θJA}	83.3	°C/W

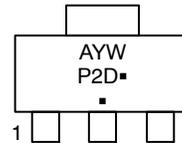
2. Device mounted on a FR-4 glass epoxy printed circuit board
1.575 in x 1.575 in x 0.0625 in; mounting pad for the collector lead = 0.93 sq in.

SOT-223 PACKAGE PNP SILICON HIGH VOLTAGE TRANSISTOR SURFACE MOUNT



SOT-223
CASE 318E
STYLE 1

MARKING DIAGRAM



- P2D = Specific Device Code
A = Assembly Location
Y = Year
W = Work Week
■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
PZTA92T1G, NSVPZTA92T1G	SOT-223 (Pb-Free)	1,000 / Tape & Reel
NSVPZTA92T3G	SOT-223 (Pb-Free)	4,000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

PZTA92T1G, NSVPZTA92T1G

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (Note 3) (I _C = -1.0 mA, I _B = 0)	V _{(BR)CEO}	-300	-	Vdc
Collector-Base Breakdown Voltage (I _C = -100 μA, I _E = 0)	V _{(BR)CBO}	-300	-	Vdc
Emitter-Base Breakdown Voltage (I _E = -100 μA, I _C = 0)	V _{(BR)EBO}	-5.0	-	Vdc
Collector-Base Cutoff Current (V _{CB} = -200 Vdc, I _E = 0)	I _{CBO}	-	-0.25	μA
Emitter-Base Cutoff Current (V _{BE} = -3.0 Vdc, I _C = 0)	I _{EBO}	-	-0.1	μA
ON CHARACTERISTICS				
DC Current Gain (I _C = -1.0 mA, V _{CE} = -10 Vdc) (I _C = -10 mA, V _{CE} = -10 Vdc) (I _C = -30 mA, V _{CE} = -10 Vdc)	h _{FE}	25 40 40	- - -	-
Saturation Voltages (I _C = -20 mA, I _B = -2.0 mA) (I _C = -20 mA, I _B = -2.0 mA)	V _{CE(sat)} V _{BE(sat)}	- -	-0.5 -0.9	Vdc
DYNAMIC CHARACTERISTICS				
Collector-Base Capacitance @ f = 1.0 MHz (V _{CB} = -20 Vdc, I _E = 0)	C _{cb}	-	6.0	pF
Current-Gain - Bandwidth Product (I _C = -10 mA, V _{CE} = -20 Vdc, f = 100 MHz)	f _T	50	-	MHz

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

3. Pulse Test Conditions, t_p = 300 μs, δ 0.02.

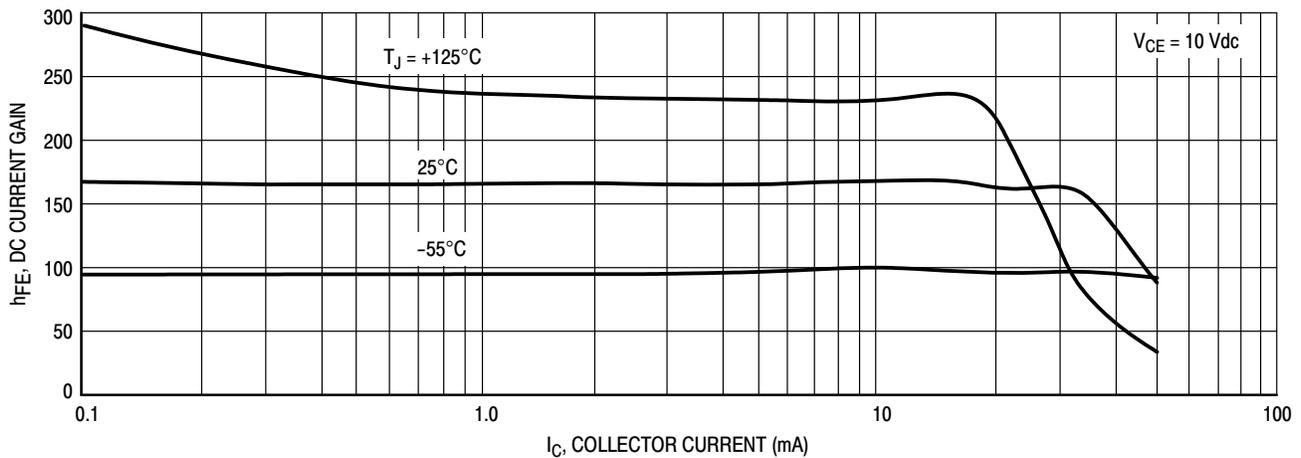


Figure 1. DC Current Gain

PZTA92T1G, NSVPZTA92T1G

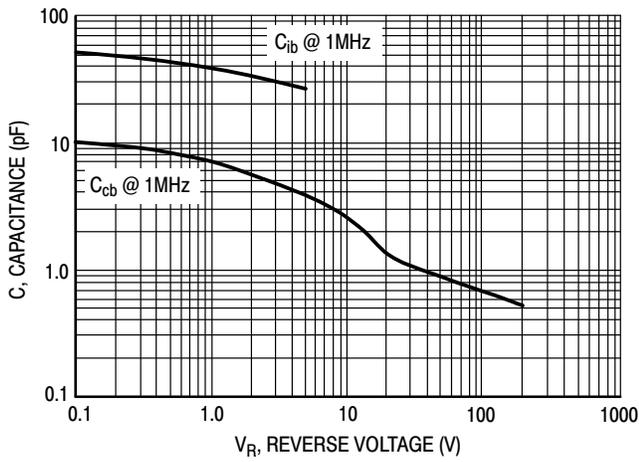


Figure 2. Capacitance

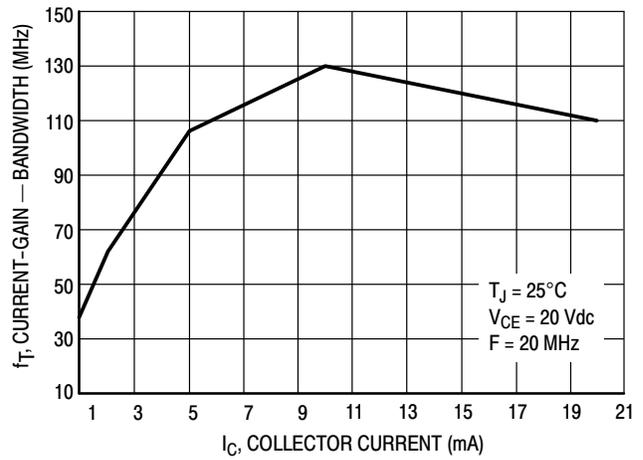


Figure 3. Current-Gain - Bandwidth

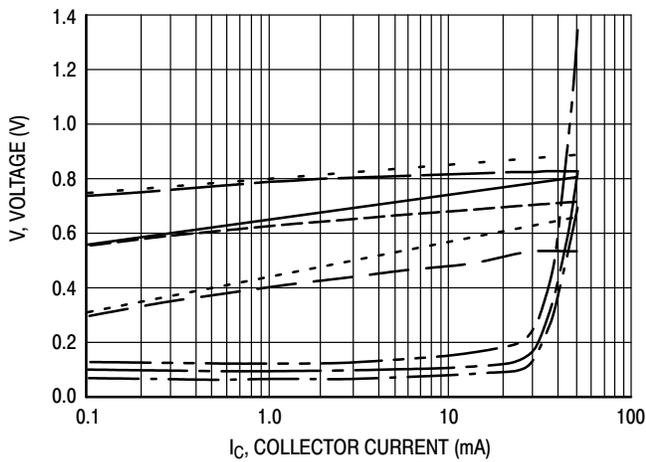


Figure 4. "ON" Voltages

- $V_{CE(sat)}$ @ 25°C, $I_C/I_B = 10$
- $V_{CE(sat)}$ @ 125°C, $I_C/I_B = 10$
- $V_{CE(sat)}$ @ -55°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ 25°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ 125°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ -55°C, $I_C/I_B = 10$
- $V_{BE(on)}$ @ 25°C, $V_{CE} = 10$ V
- $V_{BE(on)}$ @ 125°C, $V_{CE} = 10$ V
- $V_{BE(on)}$ @ -55°C, $V_{CE} = 10$ V

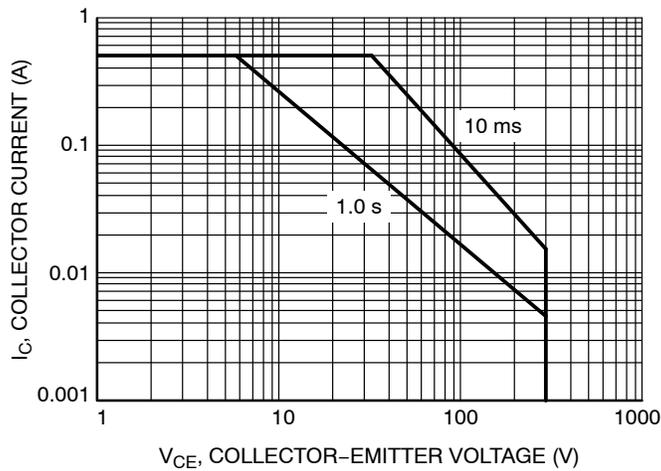


Figure 5. Safe Operating Area

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