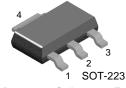


PZTA29 NPN Darlington Transistor

- This device designed for applications requiring extremely high current gain at collector currents to 500mA.
- Sourced from process 03.



1. Base 2.4. Collector 3. Emitter

Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CES}	ollector-Emitter Voltage 100 V		V
V _{CBO}	Collector-Base Voltage	100	V
V _{EBO}	Emitter-Base Voltage	12	V
I _C	Collector Current - Continuous	800	mA
T _J , T _{STG}	Operating and Storage Junction Temperature Range	-55 to +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired. **NOTES:**

1. These ratings are based on a maximum junction temperature of 150 degrees C.

2. These are steady limits. The factory should be consulted on application involving pulsed or low duty cycle operations

Electrical Characteristics $T_a = 25^{\circ}C$ unless otherwise noted

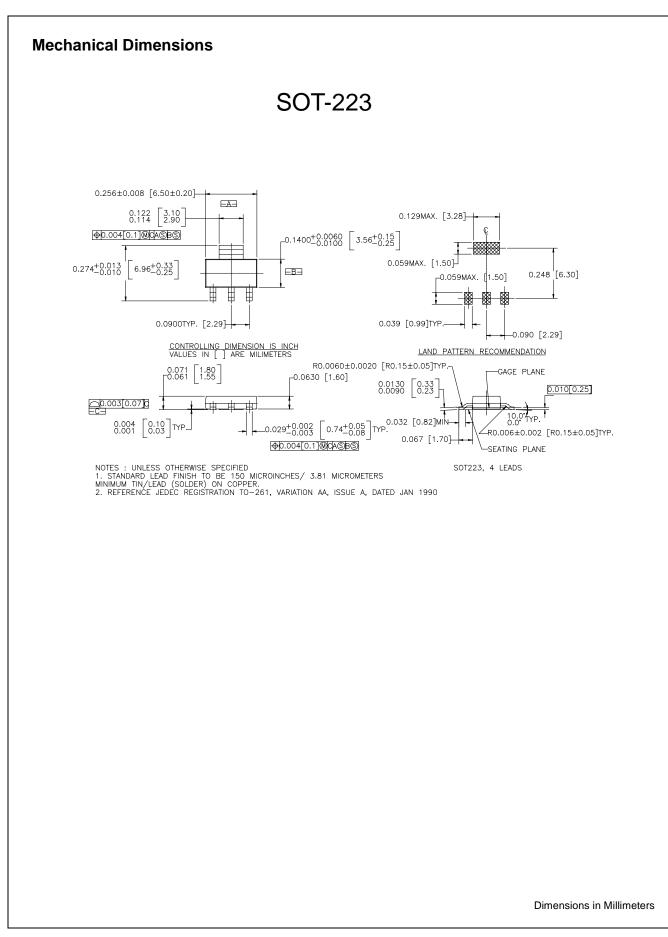
Symbol	Parameter	Conditions	Min.	Max	Units
Off Characte	ristics				1
V _{(BR)CES}	Collector-Emitter Breakdown Voltage	I _C = 100μA, V _{BE} = 0 100			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	$I_{C} = 100\mu A, I_{E} = 0$	100		V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	$I_{\rm E} = 10\mu A, I_{\rm C} = 0$ 12			V
I _{CBO}	Collector Cutoff Current	$V_{CB} = 80V, I_E = 0$		100	nA
I _{CES}	Collector Cutoff Current	$V_{CE} = 80V, V_{BE} = 0$		500	nA
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 10V, I_{C} = 0$		100	nA
On Characte	ristics				
h _{FE}	DC Current Gain	$V_{CE} = 5.0V, I_{C} = 10mA$ $V_{CE} = 5.0V, I_{C} = 100mA$	10,000 10,000		
V _{CE(sat)}	Collector-Emitter Saturation Voltage	$I_{C} = 10$ mA, $I_{B} = 0.01$ mA $I_{C} = 100$ mA, $I_{B} = 0.1$ mA		1.2 1.5	V V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 100mA, V _{CE} = 5.0V		2.0	V
	characteristics	· ·	•		•
f _T	Current Gain Bandwidth Product	I _C = 10mA, V _{CE} = 5.0V, f = 100MHz 125			MHz
C _{obo}	Output Capacitance	V _{CB} = 1.0V, I _E = 0, f = 1.0MHz 8.0		pF	

* Pulse Test: Pulse Width $\leq 300 \mu s,$ Duty Cycle $\leq 2.0\%$

Thermal Characteristics T _a = 25°C unless otherwise noted					
Symbol	Parameter	Max.	Units		
P _D	Total Device Dissipation Derate above 25°C	1,000 8.0	mW mW/°C		
R _{AIA}	Thermal Resistance, Junction to Ambient	125	°C/W		

* Device mounted on FR-4PCB 36mm \times 18mm \times 1.5mm; mounting pad for the collector lead min. 6cm^2

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