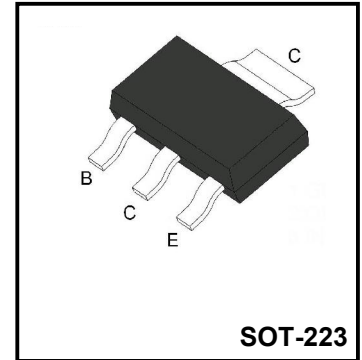


PNP Low Saturation Transistor

These devices are designed with high current gain and low Saturation voltage with collector currents up to 3A continuous.

Features

- High collector current
- Low collector-emitter saturation voltage
- Complementary types: NZT560/NZT560A


Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	NZT660	NZT660A	Unit
Collector-Base Voltage	BV_{CBO}	-80	-60	V
Collector-Emitter Voltage	BV_{CEO}	-60	-60	V
Emitter-Base Voltage	BV_{EBO}	-5		V
Collector Current	I_C	-3		A
Collector Power Dissipation	P_C	1		W
Junction Temperature	T_j	150		°C
Storage Temperature	T_{stg}	-55~+150		°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	NZT660	$I_C = -100\mu A, I_E = 0$	-80			V
	NZT660A					
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -10mA, I_B = 0$	-60			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu A, I_C = 0$	-5			V
Collector-base cut-off current	I_{CBO}	$V_{CB} = -30V, I_E = 0$			-100	nA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-100	nA
DC current gain*	$h_{FE(1)}$	$V_{CE} = -2V, I_C = -100mA$	70			
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -500mA$	100		560	
	$h_{FE(3)}$	$V_{CE} = -2V, I_C = -1A$	80			
	$h_{FE(4)}$	$V_{CE} = -2V, I_C = -3A$	25			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = -1A, I_B = -100mA$ $I_C = 3A, I_B = -300mA$			-0.3 -0.5	V
Base-emitter On Voltage*	$V_{BE(on)}$	$V_{CE} = -2V, I_C = 1A$			1	V
Transition Frequency	f_T	$V_{CE} = -5V, I_C = -100mA$	75			MHZ
Output Capacitance	C_{ob}	$V_{CE} = -10V, I_E = 0, f = 1MHz$			45	pF

*Pulse Test: Pulse Width ≤ 300 ms, Duty Cycle ≤ 2.0%

 h_{FE} (2) Classification

Classification	NZT660	NZT660A
Range	100~300	250~550

Thermal Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Junction to Ambie	$R_{\theta JA}$			125		$^{\circ}C/W$

Typical Characteristics

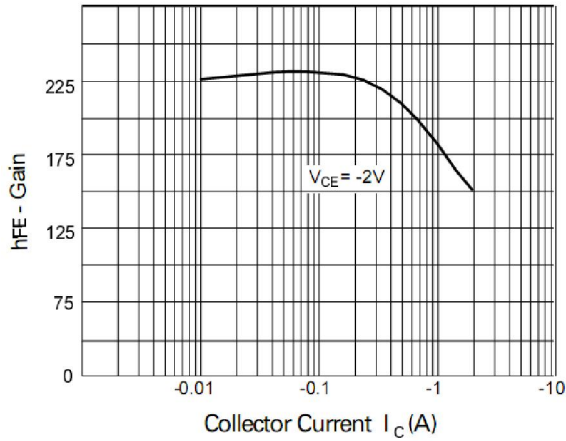


Figure 1. DC current Gain

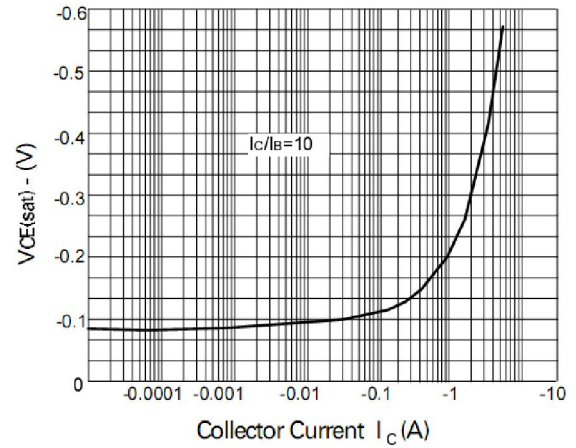


Figure 2. Collector-Emitter Saturation Voltage

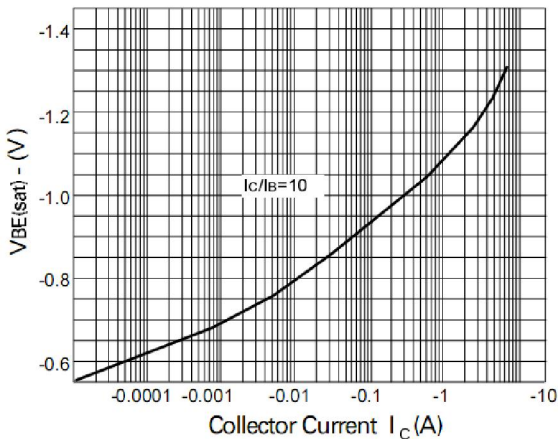


Figure 3. Base-Emitter Saturation Voltage

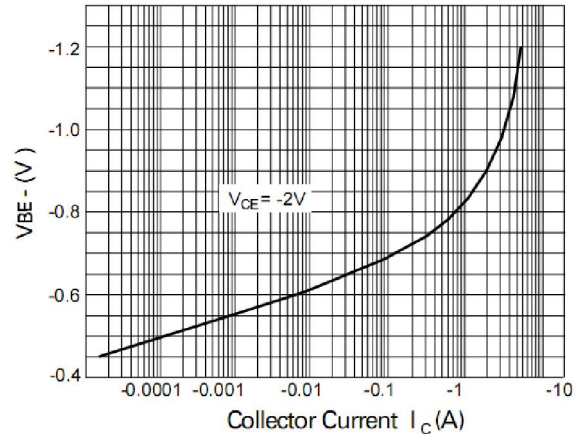


Figure 4. Base-Emitter on Voltage

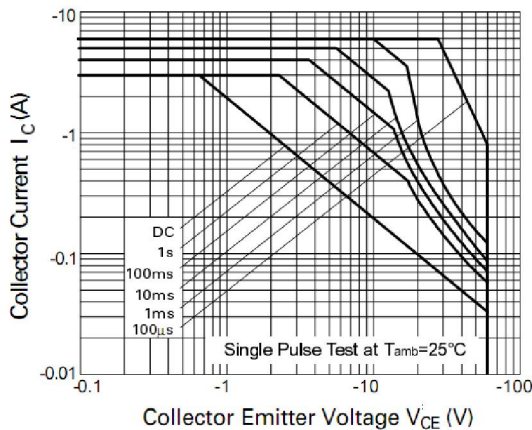


Figure 5. Safe Operating Area

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-223	Tape/Reel, 13" reel	4000	EIA-481-1