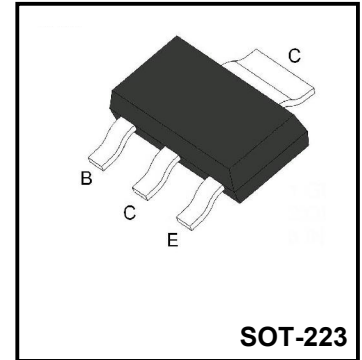


**NPN Low Saturation Transistor**

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: NZT660/NZT660A


**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	NZT560/NZT560A	Unit
Collector-Base Voltage	$BV_{CBO}$	80	V
Collector-Emitter Voltage	$BV_{CEO}$	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	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	80			V
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*	$h_{FE(1)}$	$V_{CE} = 2V, I_C = 10mA$	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 0.4	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	$C_{ob}$	$V_{CE} = 10V, I_E = 0, f = 1MHz$			30	pF

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

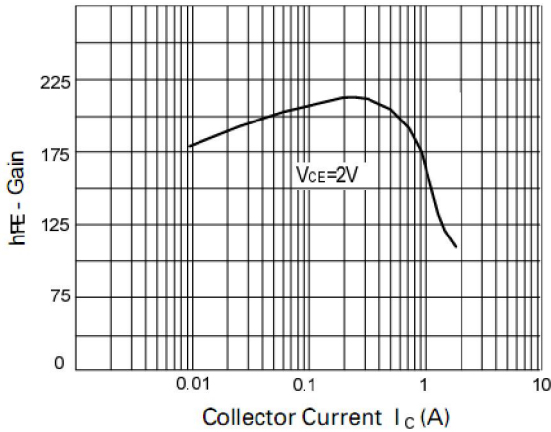
 **$h_{FE}$  (2) Classification**

Classification	NZT560	NZT560A
Range	100~300	250~550

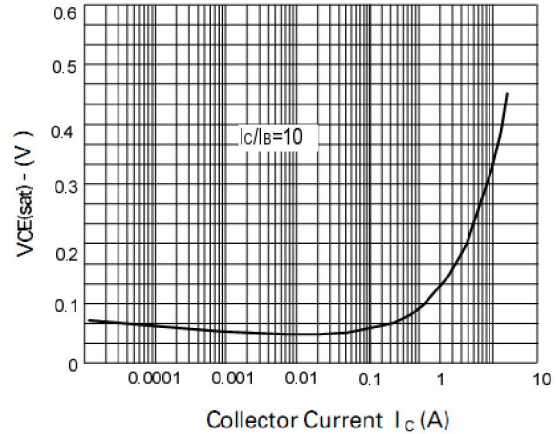
**Thermal Characteristics**

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

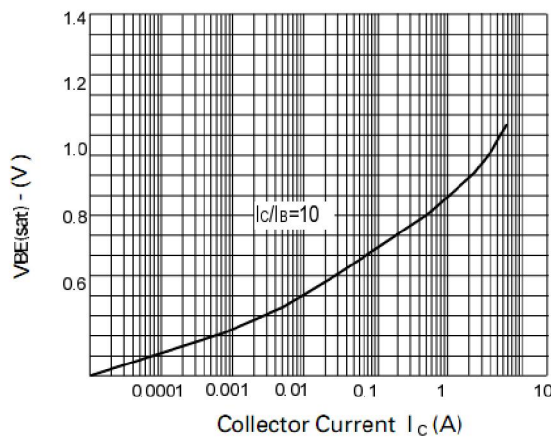
**Typical Characteristics**



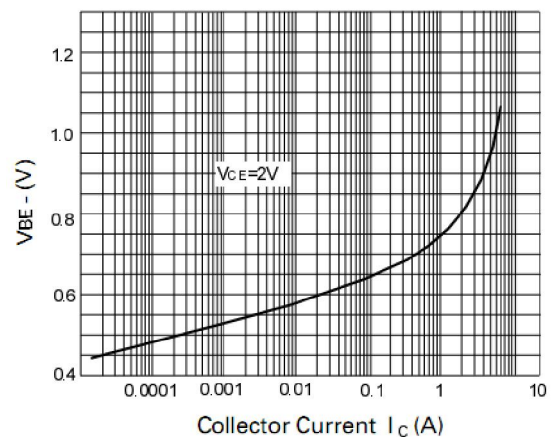
**Figure 1. DC current Gain**



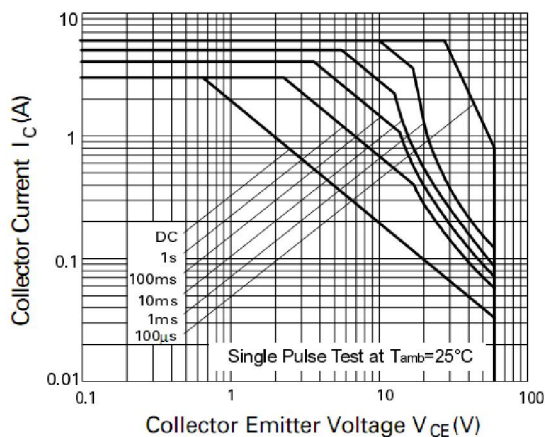
**Figure 2. Collector-Emitter Saturation Voltage**



**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