

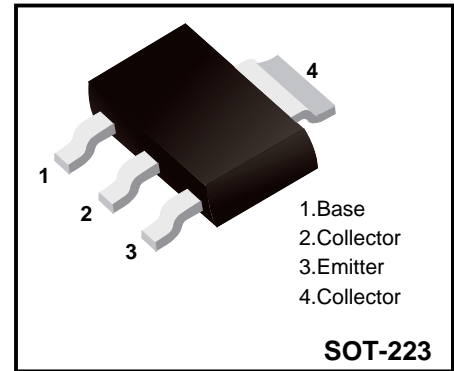
**NPN Plastic-Encapsulate Transistors**

**Silicon planar medium power darlington transistors**

**Features**

- ◆ Guaranteed  $h_{FE}$  Specified up to 2A
- ◆ Low saturation voltages
- ◆ Complement to FZT705

**Marking: FZT605TA**



**Absolute Maximum Rating (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Collector-base voltage	$BV_{CBO}$	14.0	V
Collector-emitter voltage	$BV_{CEO}$	120	V
Emitter-base voltage	$BV_{EBO}$	10	V
Continuous collector current	$I_C$	1.5	A
Peak pulse current	$I_{CM}$	4	A
Power dissipation	$P_{tot}$	2	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~150	°C

**Electrical Characteristics (Tc=25°C unless otherwise noted)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	140			V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = 10mA, I_B = 0$	120			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = 100\mu A, I_C = 0$	10			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 120V, I_B = 0$			0.01	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 8V, I_C = 0$			0.1	$\mu A$
DC current gain*	$h_{FE}$	$V_{CE} = 5V, I_C = 50mA$ $V_{CE} = 5V, I_C = 500mA$ $V_{CE} = 5V, I_C = 1A$ $V_{CE} = 5V, I_C = 2A$	2k 5k 2k 0.5k		100k	
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 250mA, I_B = 0.25mA$ $I_C = 1A, I_B = 1mA$			1.0 1.5	V
Base-emitter saturation voltage*	$V_{BE(sat)}$	$I_C = 1A, I_B = 1mA$			1.8	V
Base-emitter turn-on voltage*	$V_{BE(on)}$	$V_{CE} = 5V, I_C = 1A$			1.7	V
Transition frequency	$f_T$	$V_{CE} = 10V, I_C = 100mA$	150			MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f=1MHz$		15		pF

\* Measured under pulsed conditions. Pulse width = 300 $\mu s$ . Duty cycle 2%

Typical Characteristics

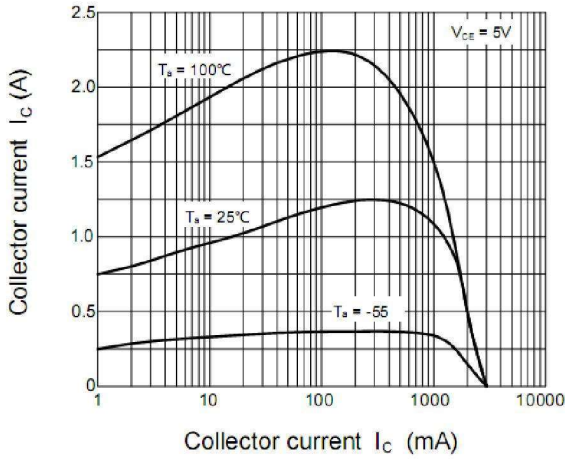


Figure 1. DC current Gain

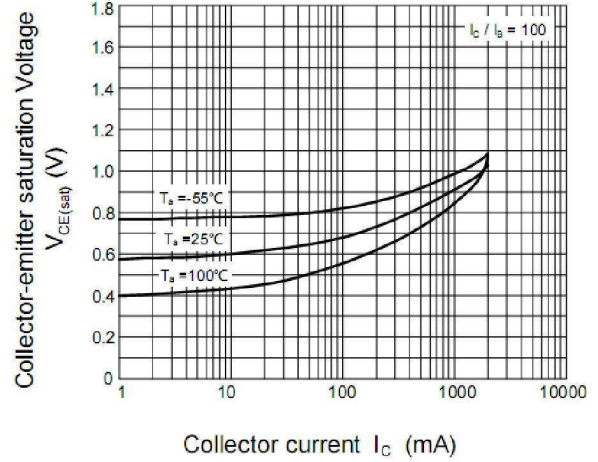


Figure 2. Collector-emitter saturation voltage

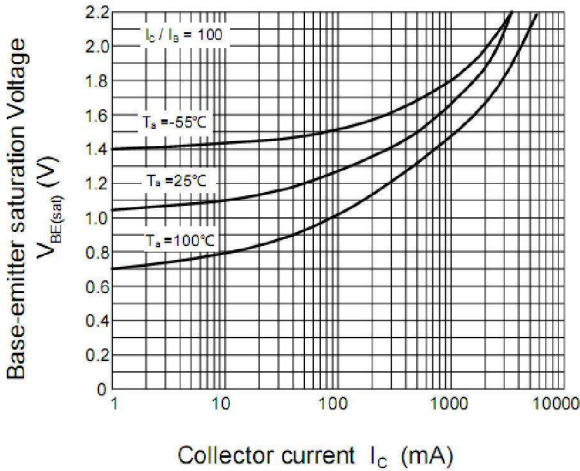


Figure 3. Base-emitter saturation Voltage

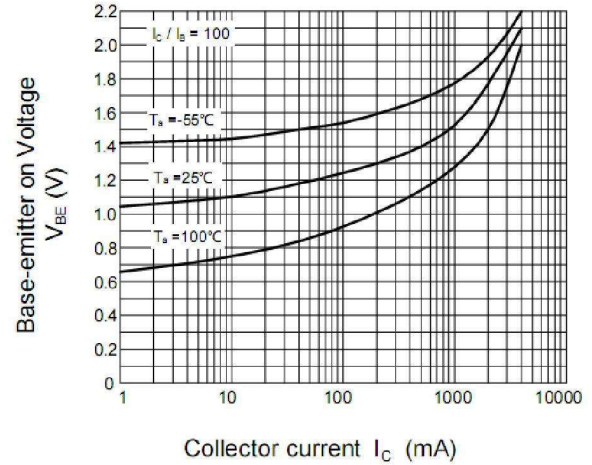


Figure 4. Base-emitter on Voltage

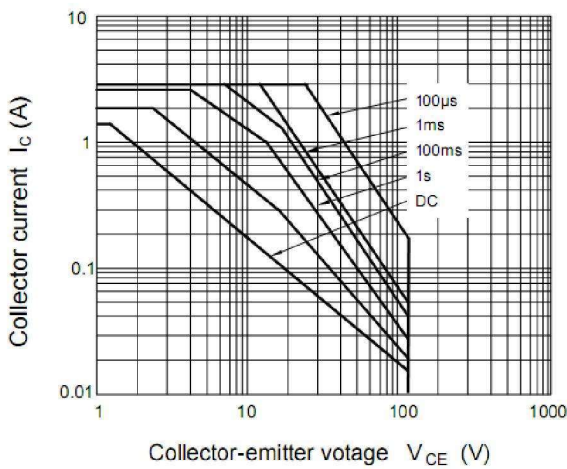


Figure 5. Safe operating area

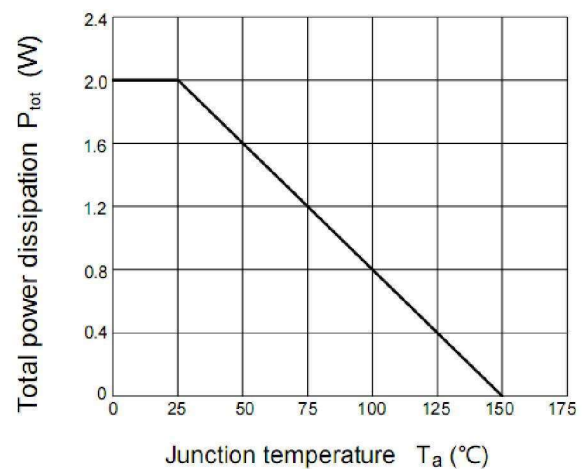


Figure 6. Power derating

**Ordering information**

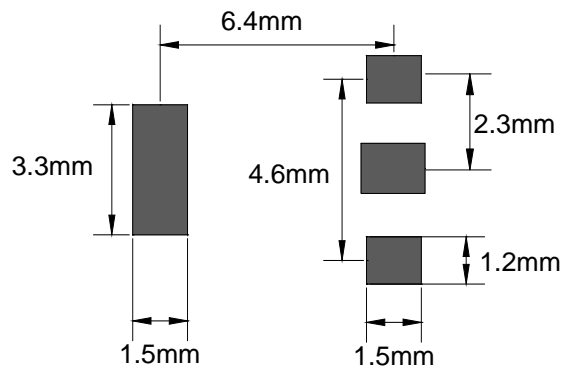
Package	Packing Description	Base Quantity	Packing Quantity
SOT-223	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel,13"reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

**Package Dimensions**

**SOT-223**

Dlm	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

**The recommended mounting pad size**



## Disclaimer

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