

**Features**

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

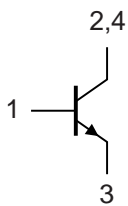
**Maximum Ratings @ 25°C Unless Otherwise Specified**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 125°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	0.2	A
Collector Current - Pulsed	$I_{CM}$	0.5	A
Collector Power Dissipation	$P_C$	1	W

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**

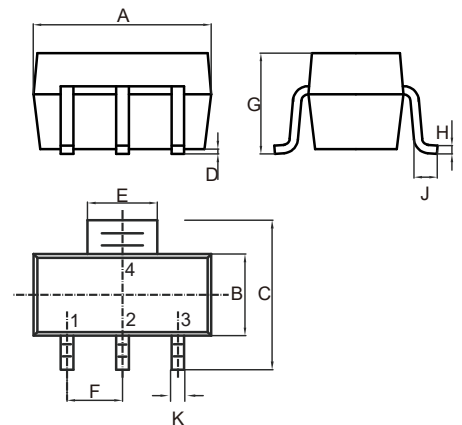


1.BASE  
2,4.COLLECTOR  
3.EMITTER

**Marking: ZTA42**

**NPN  
Plastic Encapsulate  
Transistors**

**SOT-223**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300			V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=100\mu A, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			100	nA	$V_{CB}=200V, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			100	nA	$V_{EB}=4V, I_C=0$
DC Current Gain	$h_{FE(1)}$	25				$V_{CE}=10V, I_C=1mA$
	$h_{FE(2)}$	40				$V_{CE}=10V, I_C=10mA$
	$h_{FE(3)}$	40				$V_{CE}=10V, I_C=30mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=20mA, I_B=2mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	$I_C=20mA, I_B=2mA$
Transition Frequency	$f_T$	50			MHz	$V_{CE}=20V, I_C=10mA, f=100MHz$
Collector Output Capacitance	$C_{ob}$			3	pF	$V_{CB}=20V, I_E=0, f=1MHz$

**Curve Characteristics**

Fig. 1 - Static Characteristics

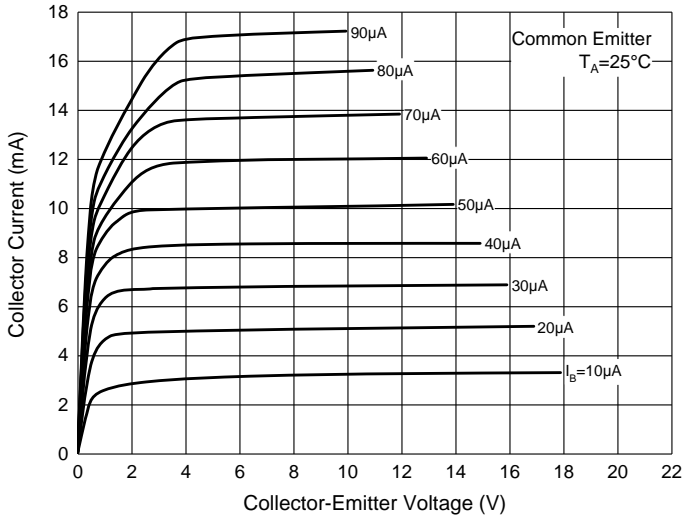


Fig. 2 - DC Current Gain Characteristics

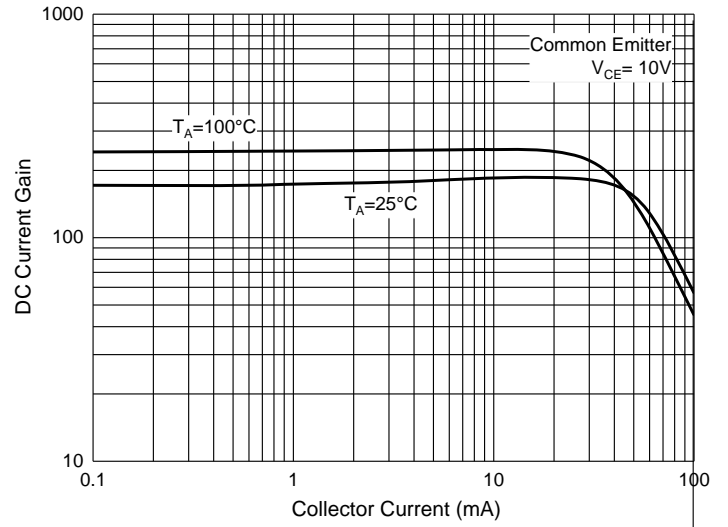


Fig. H - Collector-Emitter Saturation Voltage Characteristics

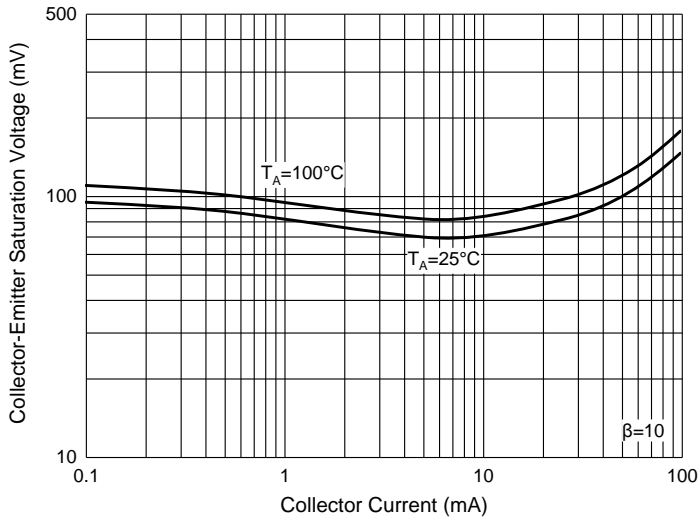


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

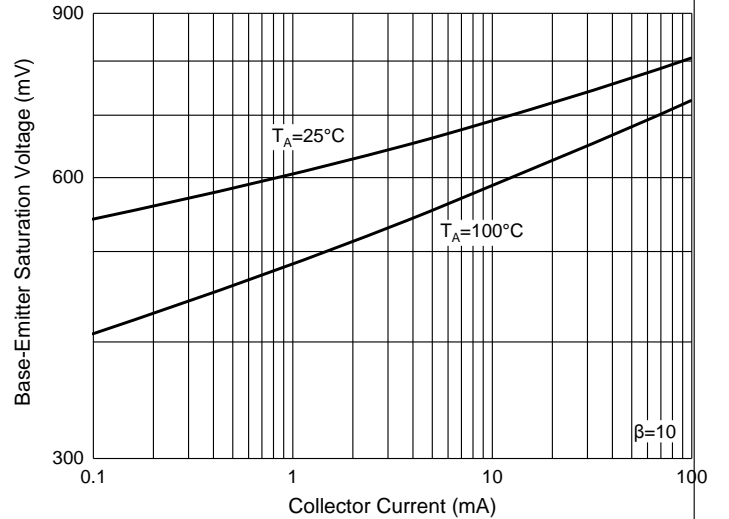


Fig. 5 - Base-Emitter Voltage Characteristics

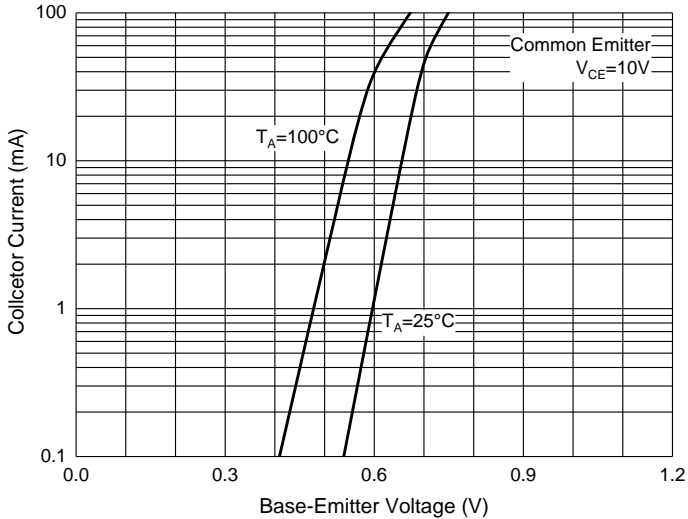


Fig. 6 - Power Derating Curve

