PRODUCT DATA SHEET

To learn more about JGSEMI, please visit our website at

Datasheet Resources Samples

Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.jg-semi.cn. Please email any questions regarding the system integration to JINGAO_questions@jgsemi.com.

NZT7053

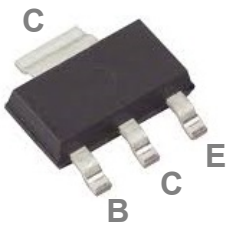
NPN Darlington Transistors

FEATURES

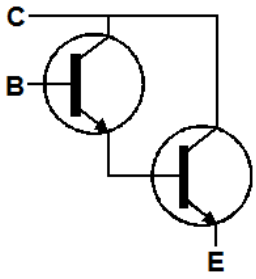
- High current gain
- Surface Mount device

MECHANICAL DATA

- Case: SOT-223
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0



Top View Pin-Out



Device Symbol

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

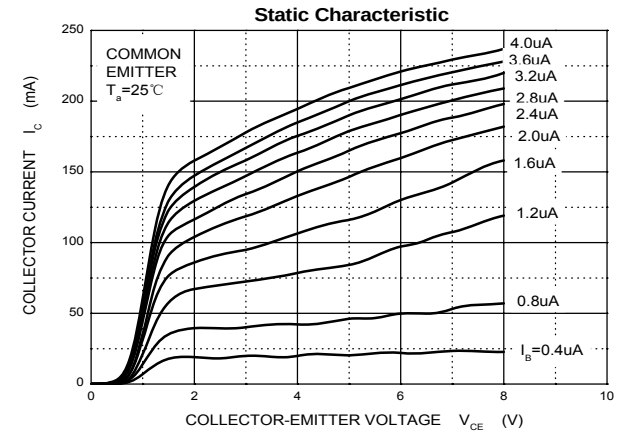
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current	I_C	800	mA
Collector Power Dissipation	P_C	1000	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~+150	°C

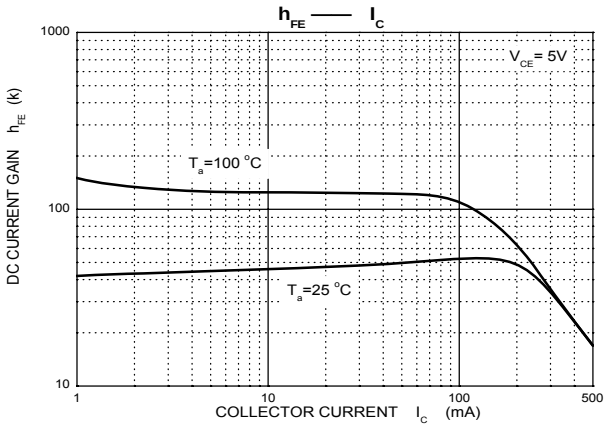
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

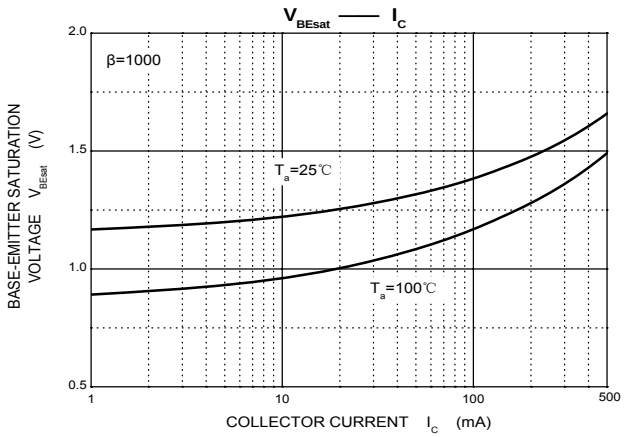
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	100			V	I_C=100uA, I_E=0
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	100			V	I_C=100uA, I_B=0
Emitter-base breakdown voltage	$V_{(BR)EBO}$	12			V	I_E=10uA, I_C=0
Collector cut-off current	I_{CBO}			0.1	uA	V_{CB}=60V, I_E=0
Collector cut-off current	I_{CES}			0.5	uA	V_{CE}=55V, V_{BE}=0V
Emitter cut-off current	I_{EBO}			0.1	uA	V_{EB}=10V, I_C=0
DC current gain	h_{FE1}	10			K	V_{CE}=5V, I_C=10mA
	h_{FE2}	10			K	V_{CE}=5V, I_C=100mA
Collector-emitter saturation voltage	$V_{CE(sat)}$			1.2	V	I_C=10mA, I_B=0.01mA
Base-emitter saturation voltage	$V_{BE(sat)}$			1.5	V	I_C=100mA, I_B=0.1mA
Base-emitter voltage	V_{BE}			2	V	V_{CE}=5V, I_C=100mA
Transition frequency	f_T	125			MHz	V_{CE}=5V, I_C=10mA,f=100MHz
Collector output capacitance	C_{ob}			8	pF	V_{CB}=1V, I_E=0, f=1MHz

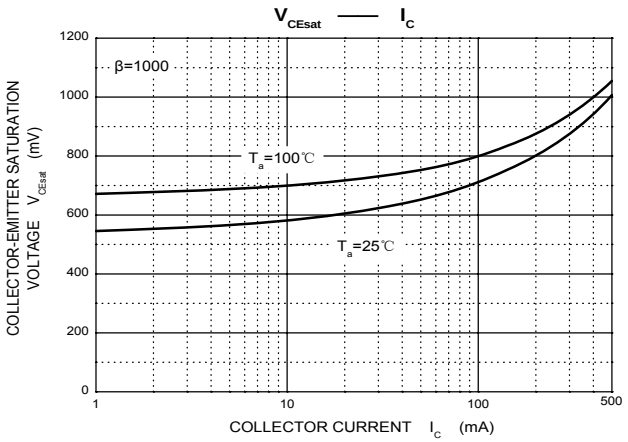
Pulse test: Pulse width ≤300us, duty cycle≤2%

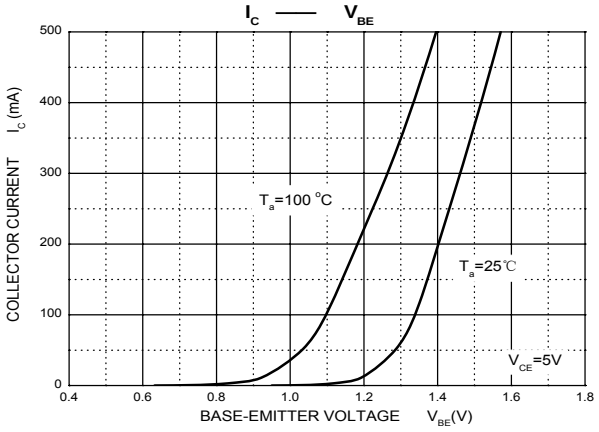
Typical Characteristics

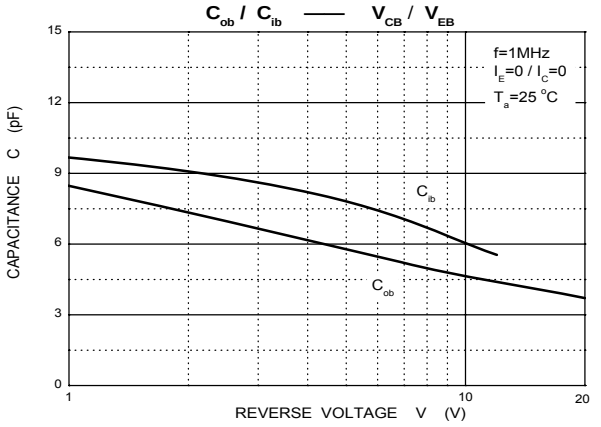


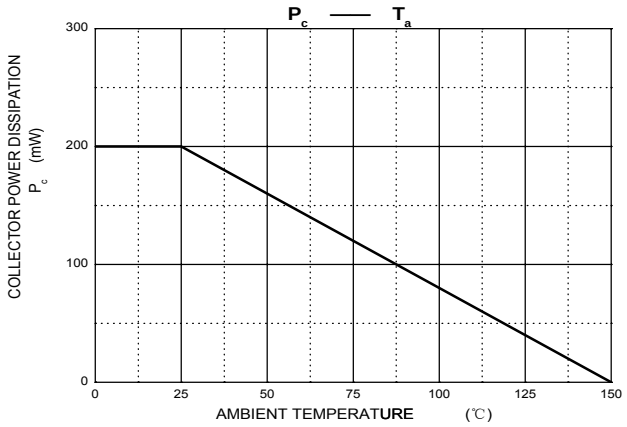




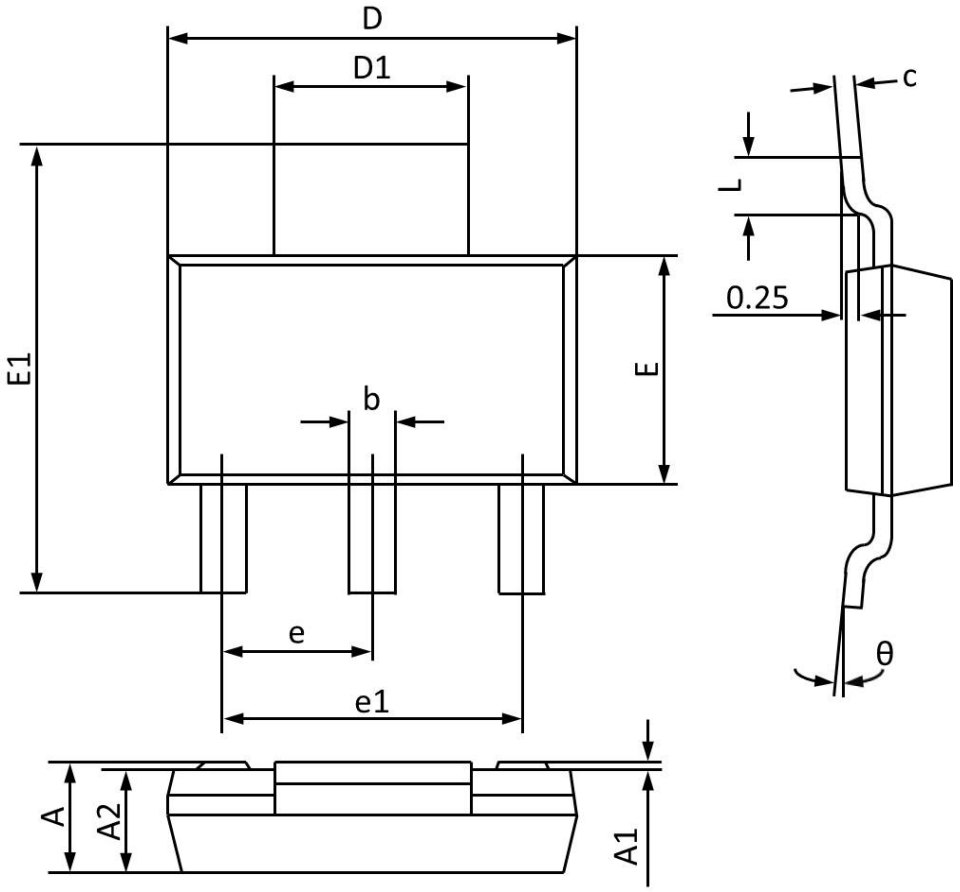








SOT223 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300 (BSC)		0.091 (BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°

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