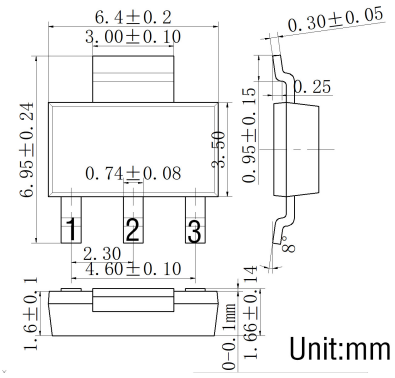
SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOT-223 Plastic-Encapsulate Transistors

2SD2136 NPN Silicon Power Transistor



1. Base
2. Collector
3. Emitter

Features

- High Forward Current Transfer Ratio h_{FE} Which has Satisfactory Linearity.
- Low Collector-Emitter Saturation Voltage $V_{CE(sat)}$
- Allowing Supply with the Radial Taping

Maximum Ratings (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector Base Voltage	60	V
V_{CEO}	Collector Emitter Voltage	60	V
V_{EBO}	Emitter Base Voltage	6	V
I_C	Collector Current	3	A
P_C	Collector Power Dissipation	1.25	W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ +150	°C
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	100	°C/W

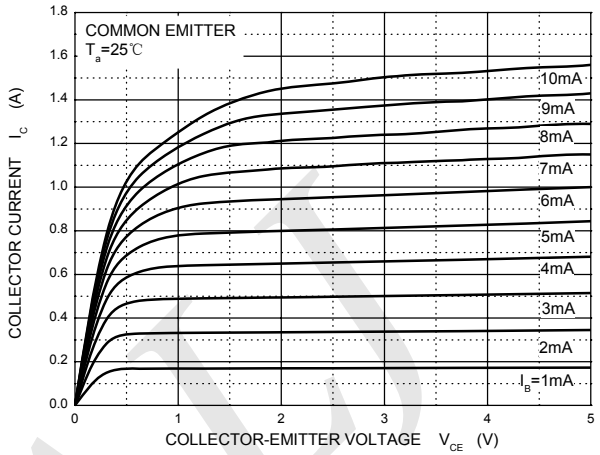
Electrical Characteristics (T_a=25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA,I_E=0	60			V
$V_{(BR)CEO}$*	Collector-emitter breakdown voltage	I_C=30mA,I_B=0	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E= 100μA,I_C=0	6			V
I_{CBO}	Collector cut-off current	V_{CB}=60V,I_E=0			200	uA
I_{CEO}	Collector cut-off current	V_{CE}=60V,I_B=0			300	μA
I_{EBO}	Emitter cut-off current	V_{EB}=6V,I_C=0			1	mA
$h_{FE(1)}$*	DC current gain	V_{CE}=4V, I_C=1A	70		200	
$h_{FE(2)}$*		V_{CE}=4V, I_C=3A	10			
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C=3A,I_B=0.375A			1.2	V
V_{BE}*	Base-emitter voltage	V_{CE}=4V, I_C=3A			1.8	V
f_T	Transition frequency	V_{CE}=5V,I_C=0.1A, f=10MHz		30		MHz

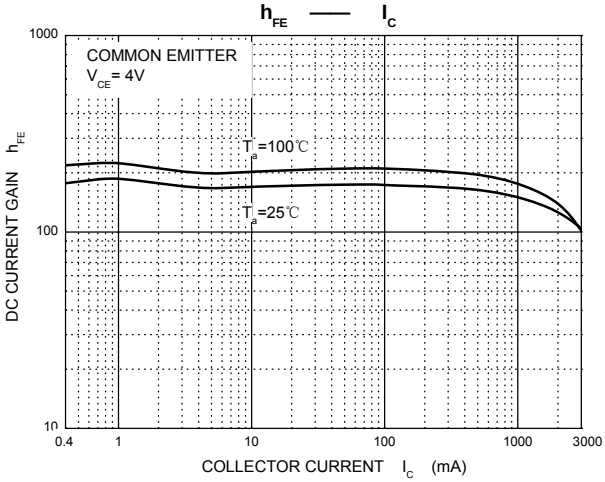
* Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

Typical Characteristics

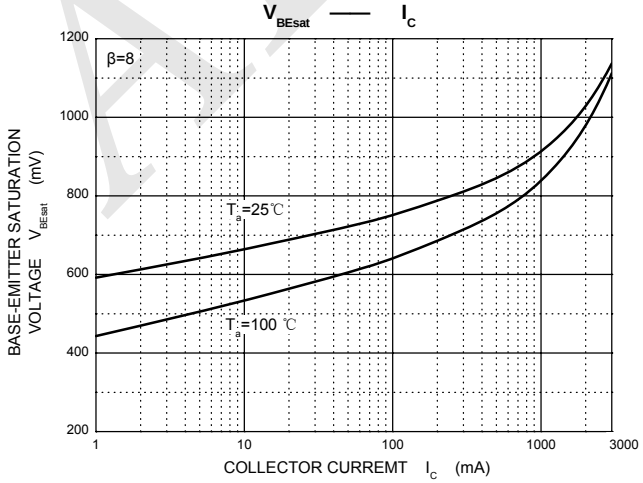
Static Characteristic



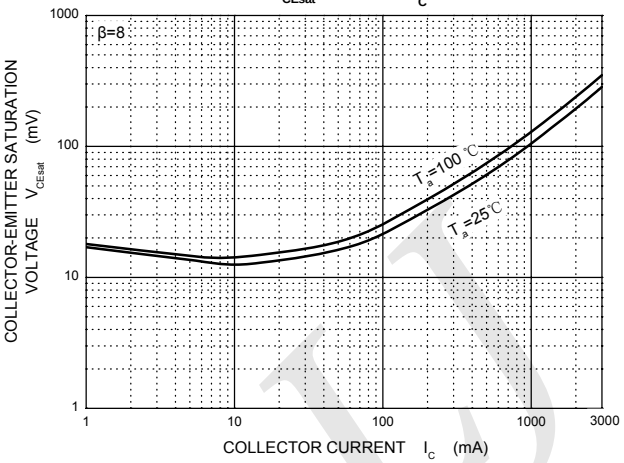
h_{FE} —— I_C



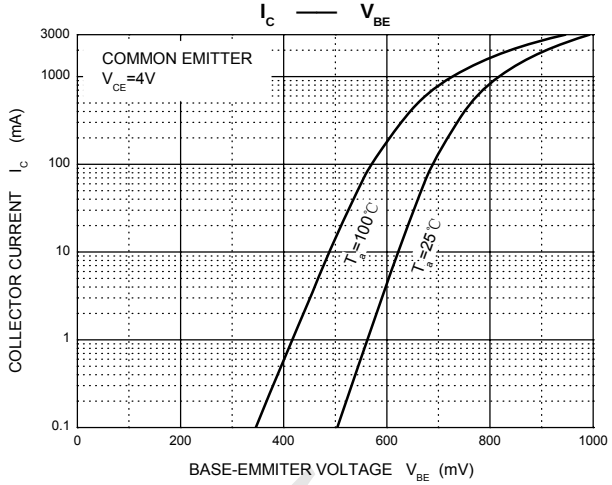
V_{BEsat} —— I_C



V_{CEsat} —— I_C



I_C —— V_{BE}



P_C —— T_a