

# SHINDENGEN

## Switching Power Transistor

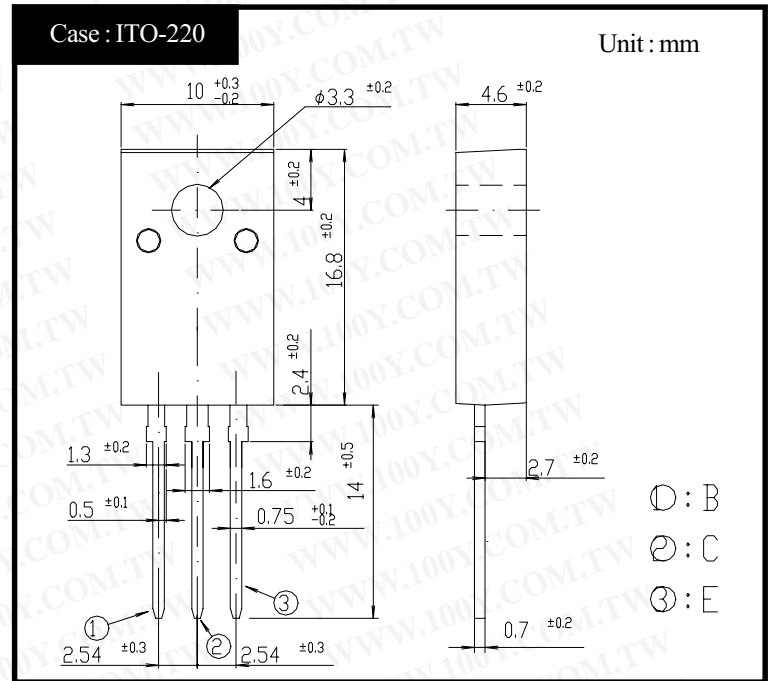
LSV Series

**2SC4151**  
(TP15S4)

**15A NPN**

勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
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### OUTLINE DIMENSIONS



### RATINGS

#### ● Absolute Maximum Ratings

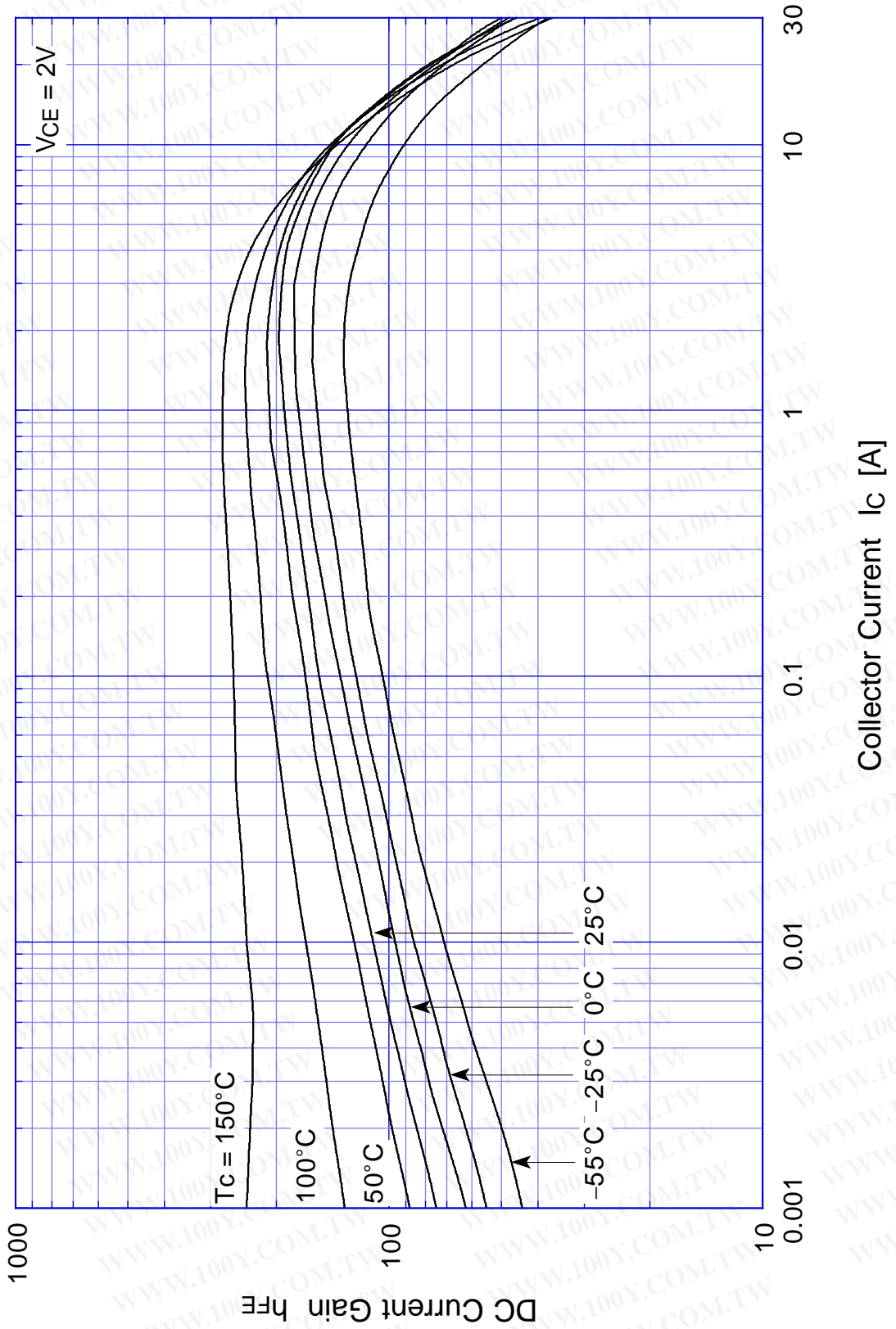
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-55~150	°C
Junction Temperature	T <sub>j</sub>		150	°C
Collector to Base Voltage	V <sub>CBO</sub>		60	V
Collector to Emitter Voltage	V <sub>CEO</sub>		40	V
Emitter to Base Voltage	V <sub>EBO</sub>		7	V
Collector Current DC	I <sub>C</sub>		15	A
Collector Current Peak	I <sub>CP</sub>		30	A
Base Current DC	I <sub>B</sub>		2	A
Base Current Peak	I <sub>BP</sub>		3	A
Total Transistor Dissipation	P <sub>T</sub>	T <sub>c</sub> = 25°C	30	W
Dielectric Strength	V <sub>dis</sub>	Terminal to case, AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque : 0.3N·m)	0.5	N·m

#### ● Electrical Characteristics (T<sub>c</sub>=25°C)

Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	V <sub>CEO(sus)</sub>	I <sub>C</sub> = 0.1A	Min 40	V
Collector Cutoff Current	I <sub>CBO</sub>	At rated Voltage	Max 0.1	mA
	I <sub>CEO</sub>		Max 0.1	
Emitter Cutoff Current	I <sub>EBO</sub>	At rated Voltage	Max 0.1	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 7.5A	Min 70	
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 7.5A	Max 0.3	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>B</sub> = 0.4A	Max 1.2	V
Thermal Resistance	θ <sub>jc</sub>	Junction to case	Max 4.16	°C/W
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1.5A	TYP 50	MHz
Turn on Time	ton	I <sub>C</sub> = 7.5A I <sub>B1</sub> = 0.75A, I <sub>B2</sub> = 0.75A R <sub>L</sub> = 4Ω, V <sub>BB2</sub> = 4V	Max 0.3	μs
Storage Time	ts		Max 1.5	
Fall Time	tf		Max 0.5	

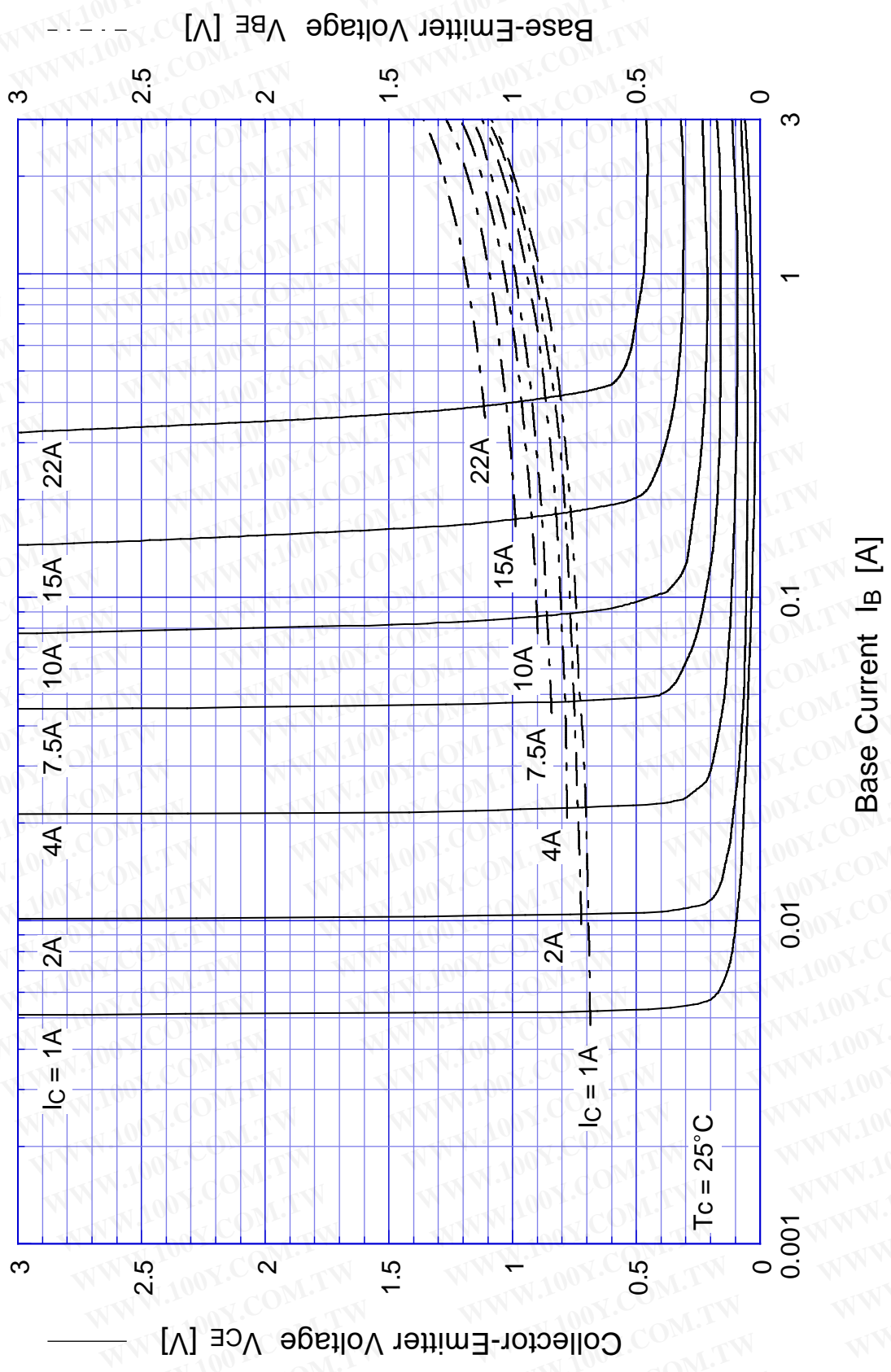
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# 2SC4151 hFE - Ic

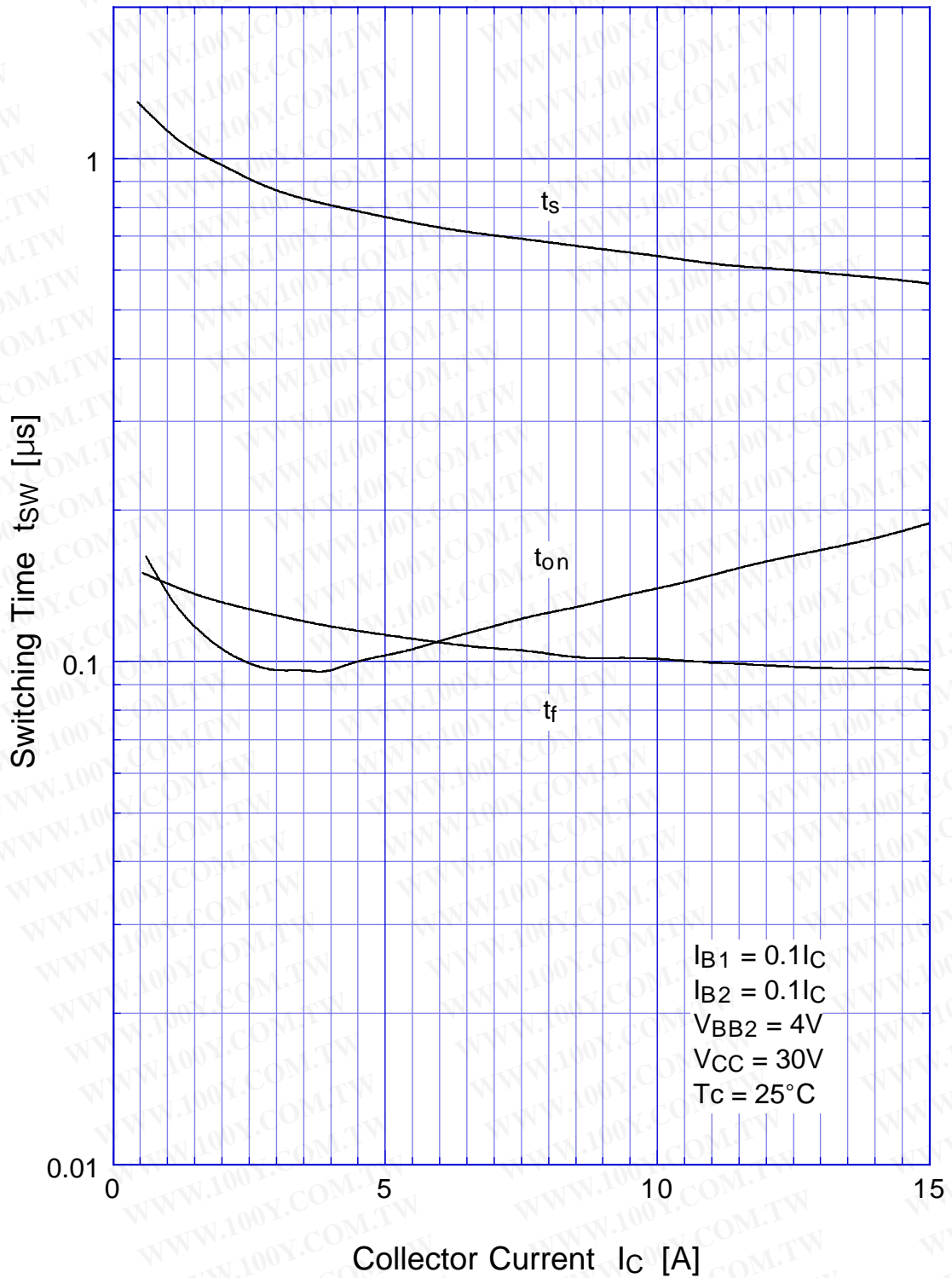


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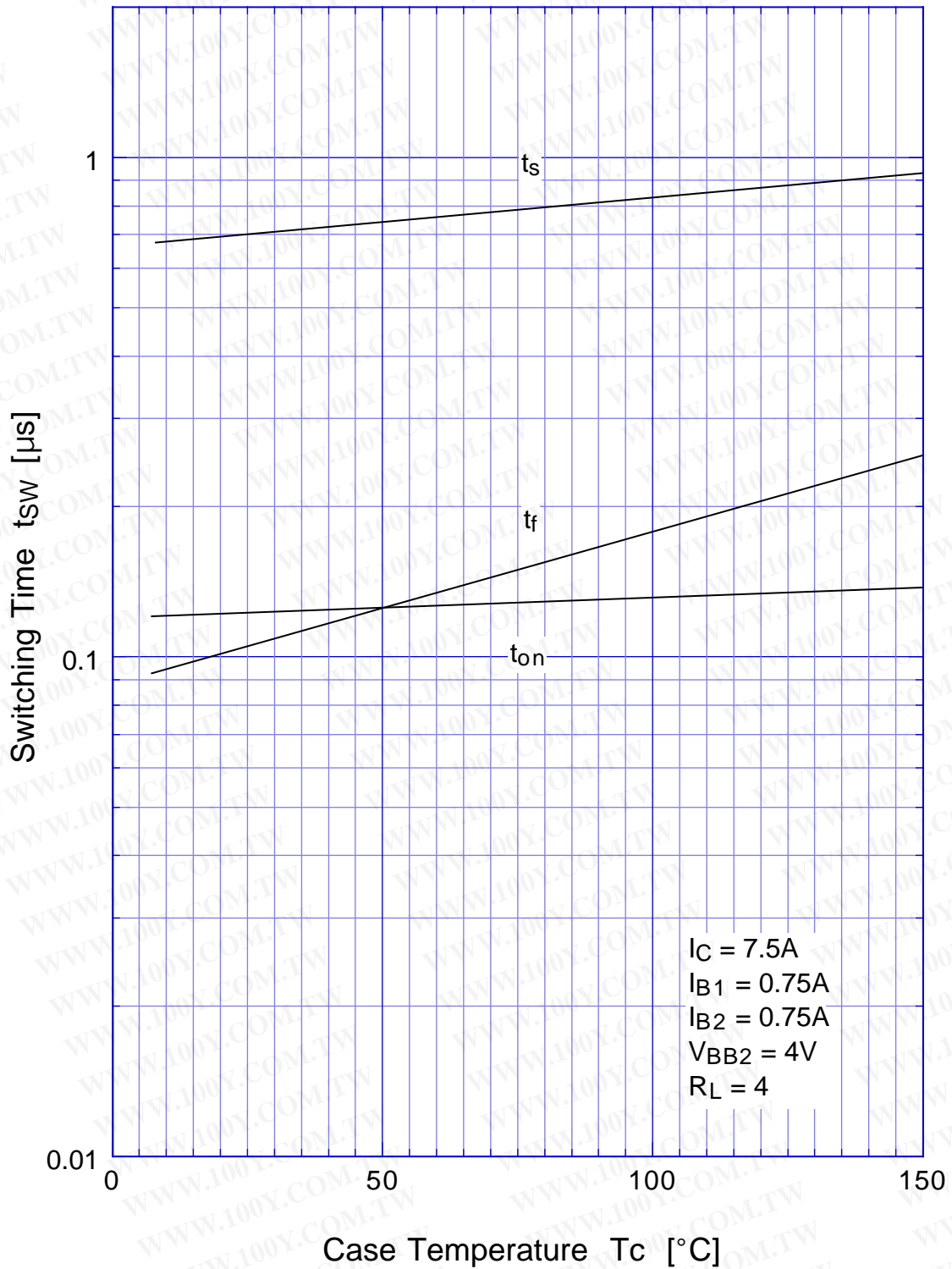
### 2SC4151 Saturation Voltage



## 2SC4151 Switching Time - $I_c$

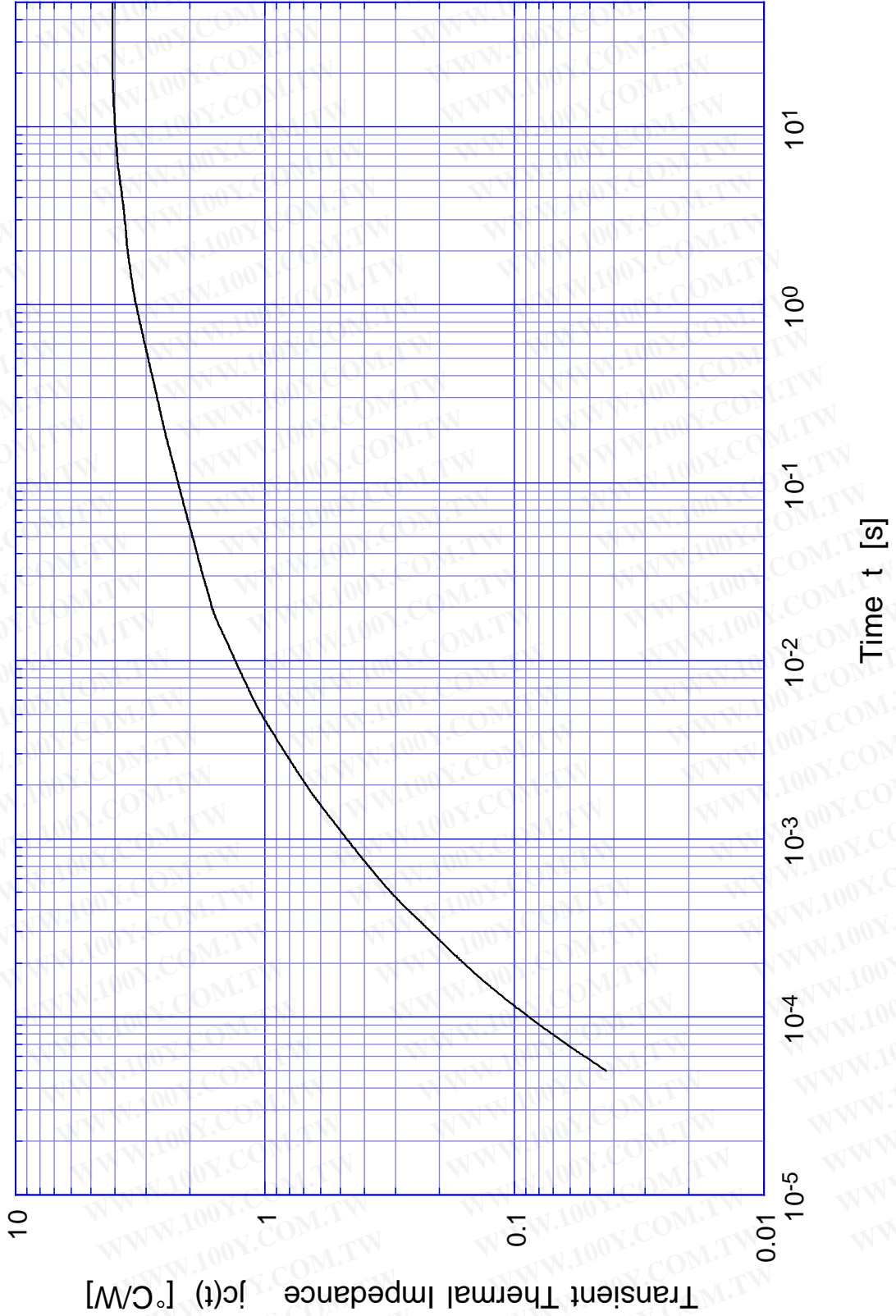


## 2SC4151 Switching Time - Tc

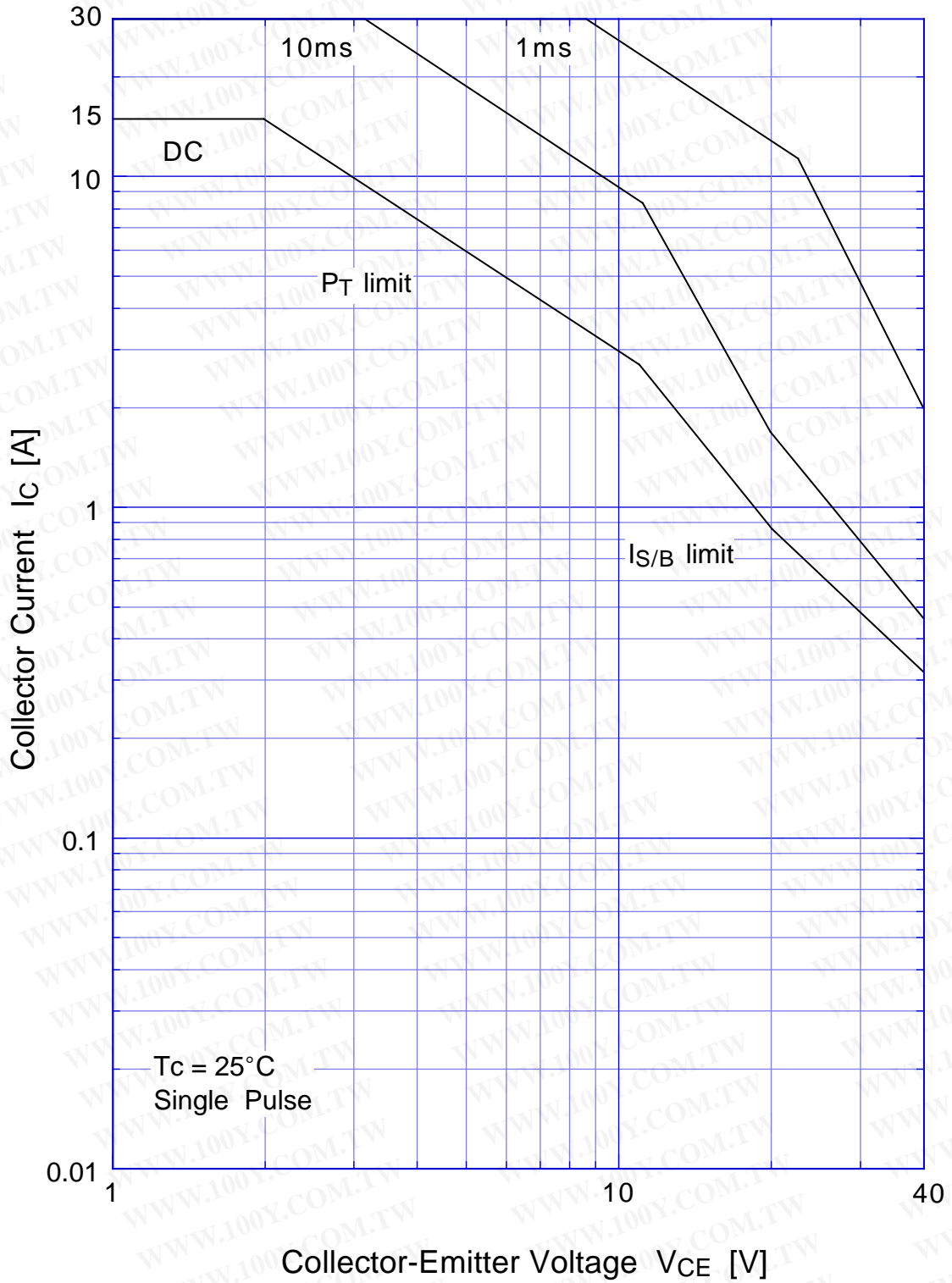


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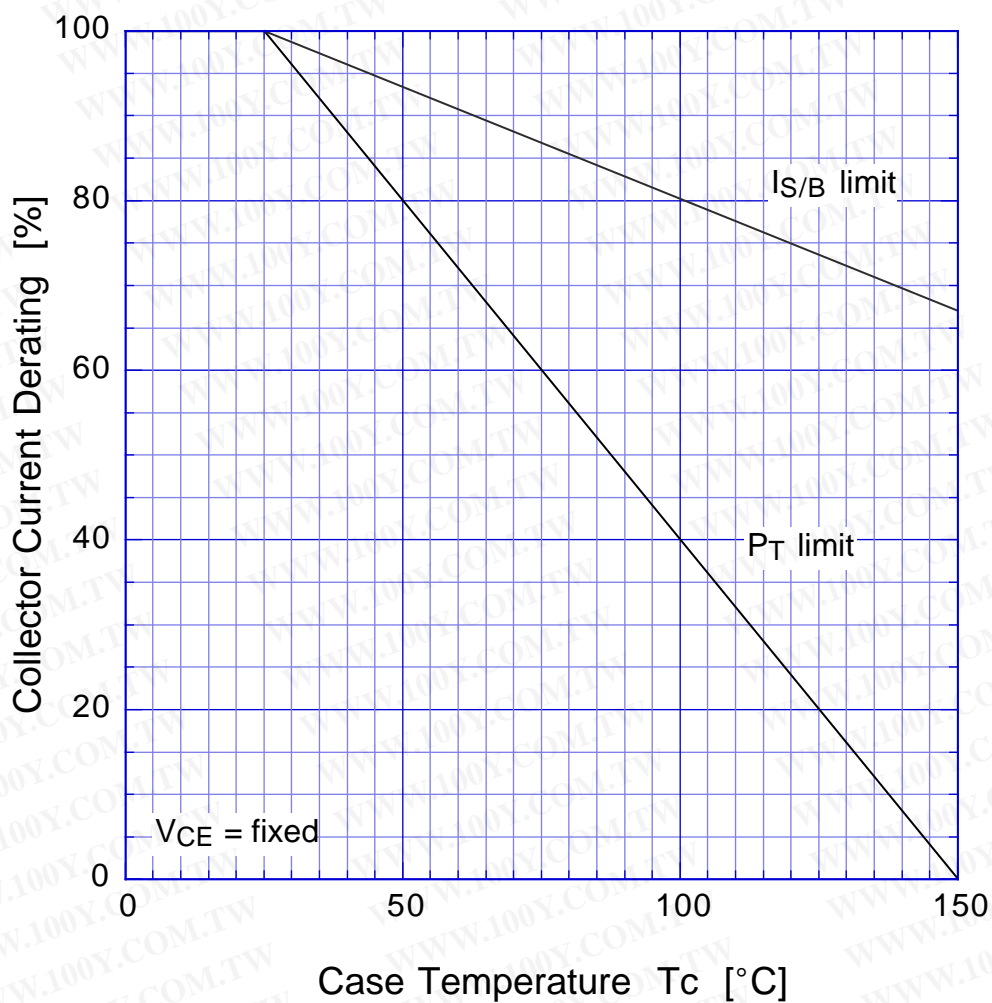
### 2SC4151 Transient Thermal Impedance



## 2SC4151 Forward Bias SOA



## 2SC4151 Collector Current Derating



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