

# SHINDENGEN

## Switching Power Transistor

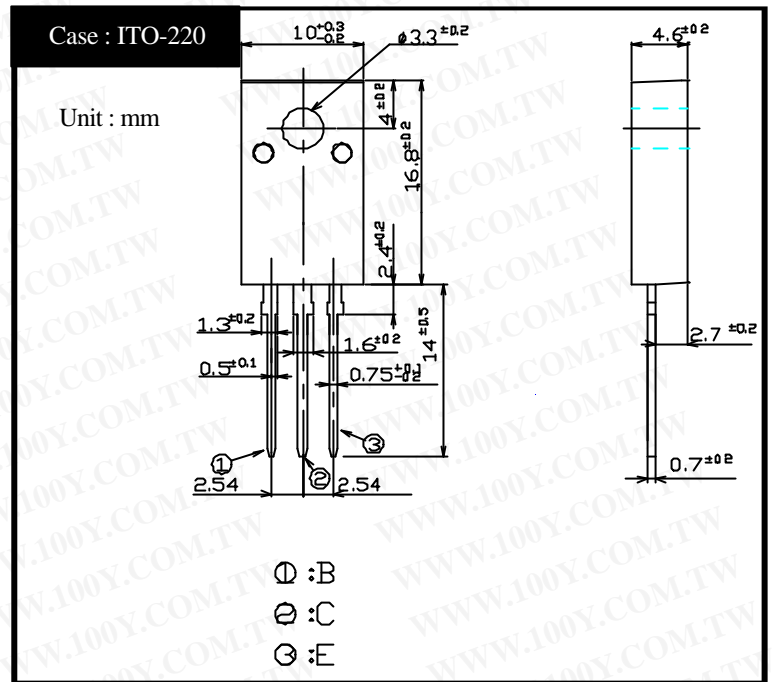
LSV Series

**2SC4148**  
(TP7S4)

**7A 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  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### OUTLINE DIMENSIONS



### RATINGS

#### Absolute Maximum Ratings

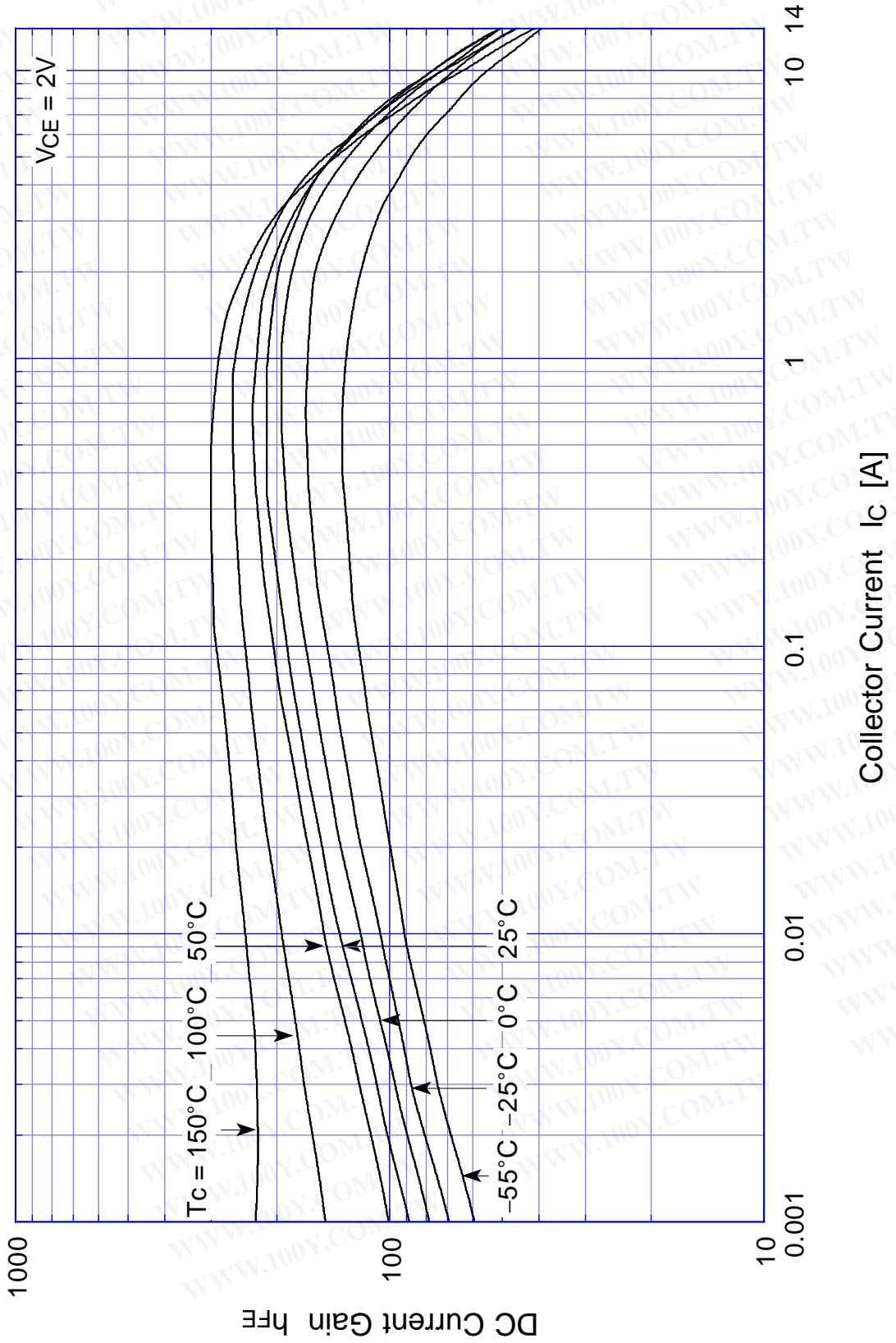
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-55 ~ 150	
Junction Temperature	T <sub>j</sub>		150	
Collector to Base Voltage	V <sub>CB0</sub>		60	V
Collector to Emitter Voltage	V <sub>CE0</sub>		40	V
Emitter to Base Voltage	V <sub>EBO</sub>		7	V
Collector Current DC	I <sub>C</sub>		7	A
Collector Current Peak	I <sub>CP</sub>		14	A
Base Current DC	I <sub>B</sub>		1.5	A
Base Current Peak	I <sub>BP</sub>		2	A
Total Transistor Dissipation	P <sub>T</sub>	T <sub>C</sub> = 25	25	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 )

Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	V <sub>CE0(sus)</sub>	I <sub>C</sub> = 0.1A	Min 40	V
Collector Cutoff Current	I <sub>CB0</sub>	At rated Voltage	Max 0.1	mA
			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> = 3.5A	Min 70	
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 3.5A	Max 0.3	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>B</sub> = 0.2A	Max 1.2	V
Thermal Resistance	θ <sub>JC</sub>	Junction to case	Max 5	/W
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.7A	TYP 50	MHz
Turn on Time	t <sub>on</sub>	I <sub>C</sub> = 3.5A I <sub>B1</sub> = 0.35A, I <sub>B2</sub> = 0.35A R <sub>L</sub> = 8 Ω, V <sub>BB2</sub> = 4V	Max 0.3	μs
Storage Time	t <sub>s</sub>		Max 1.5	
Fall Time	t <sub>f</sub>		Max 0.5	

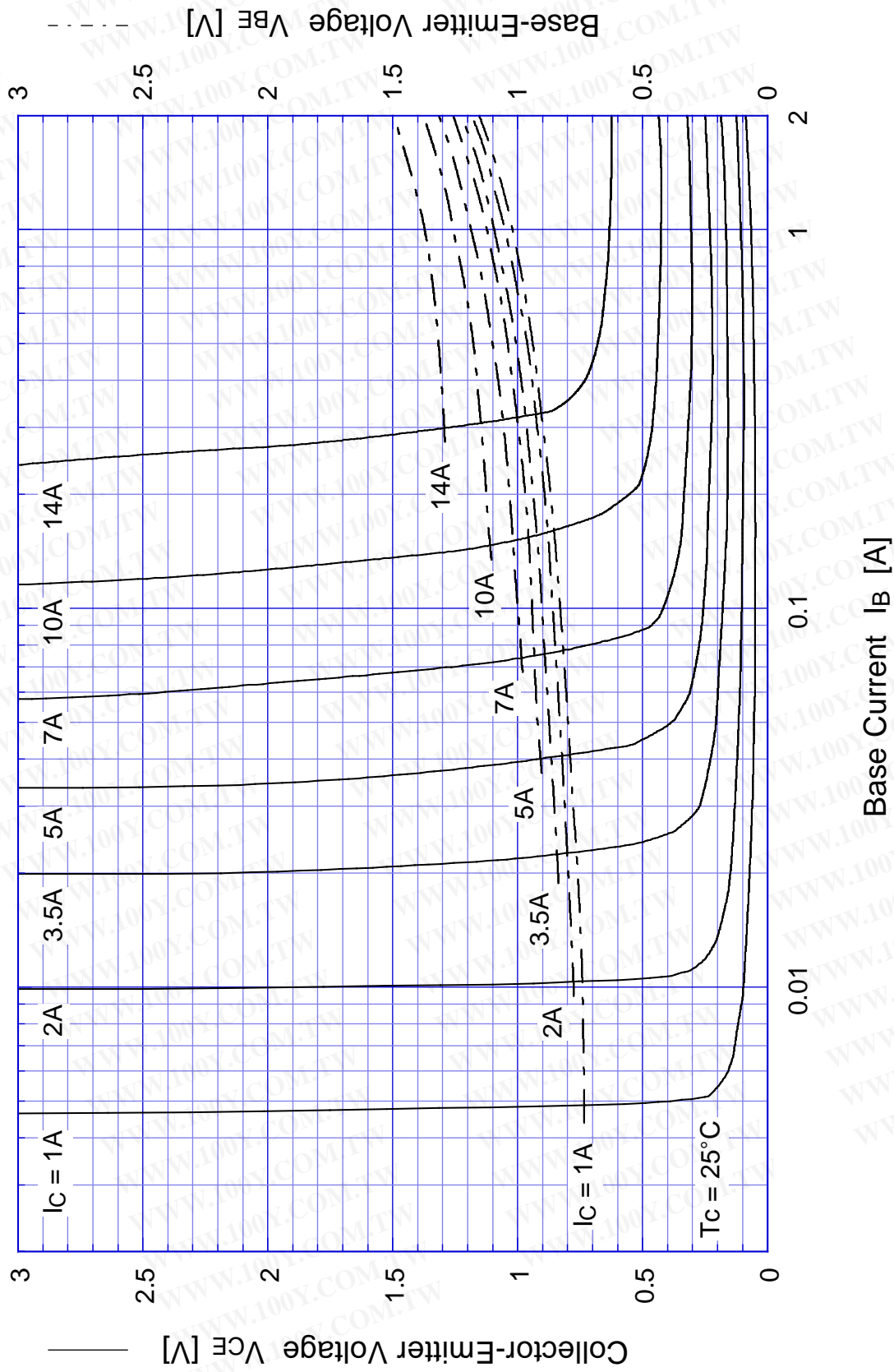
勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

2SC4148 hFE - I<sub>c</sub>

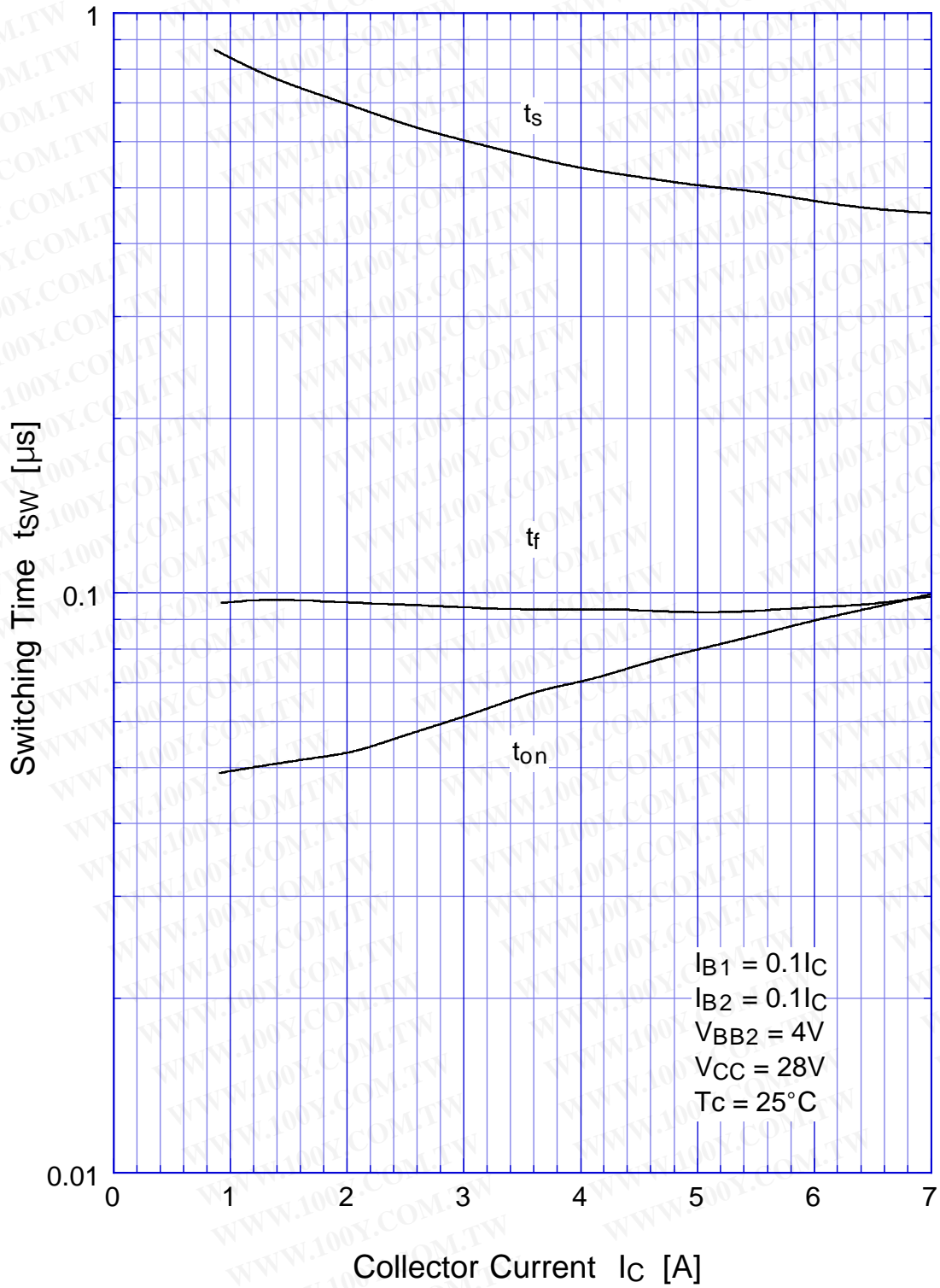


勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### 2SC4148 Saturation Voltage

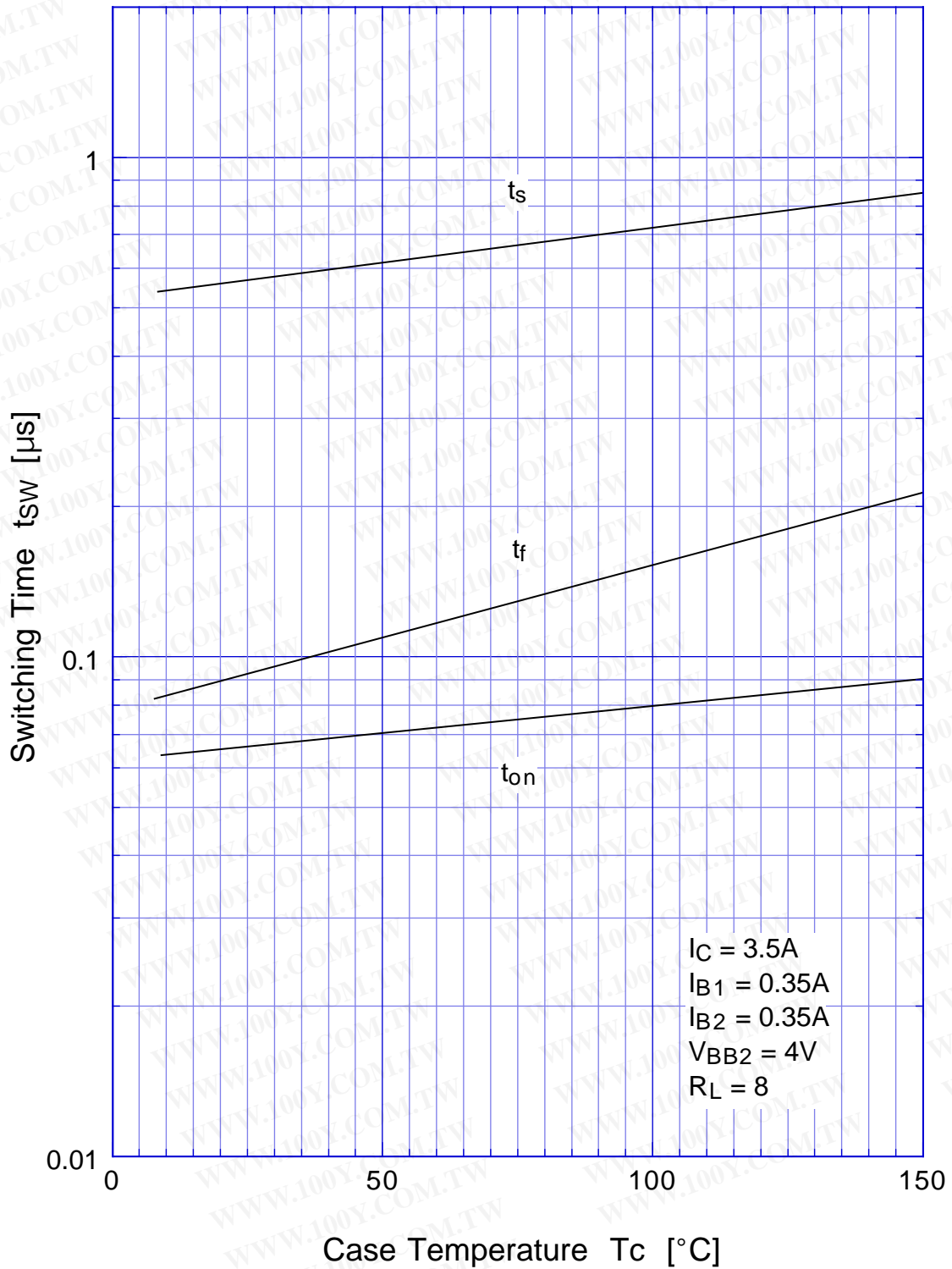


## 2SC4148 Switching Time - $I_C$

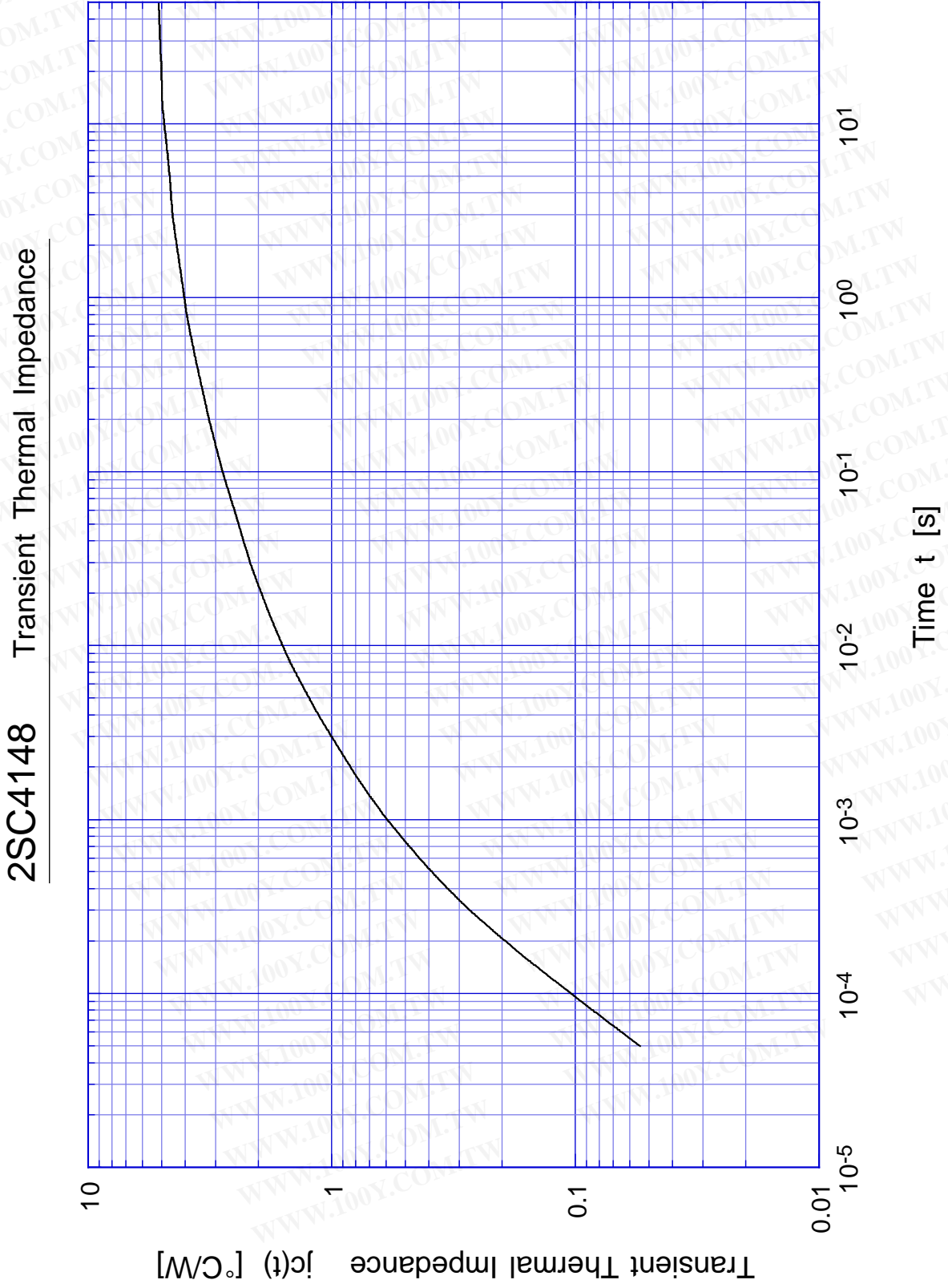


勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## 2SC4148 Switching Time - Tc

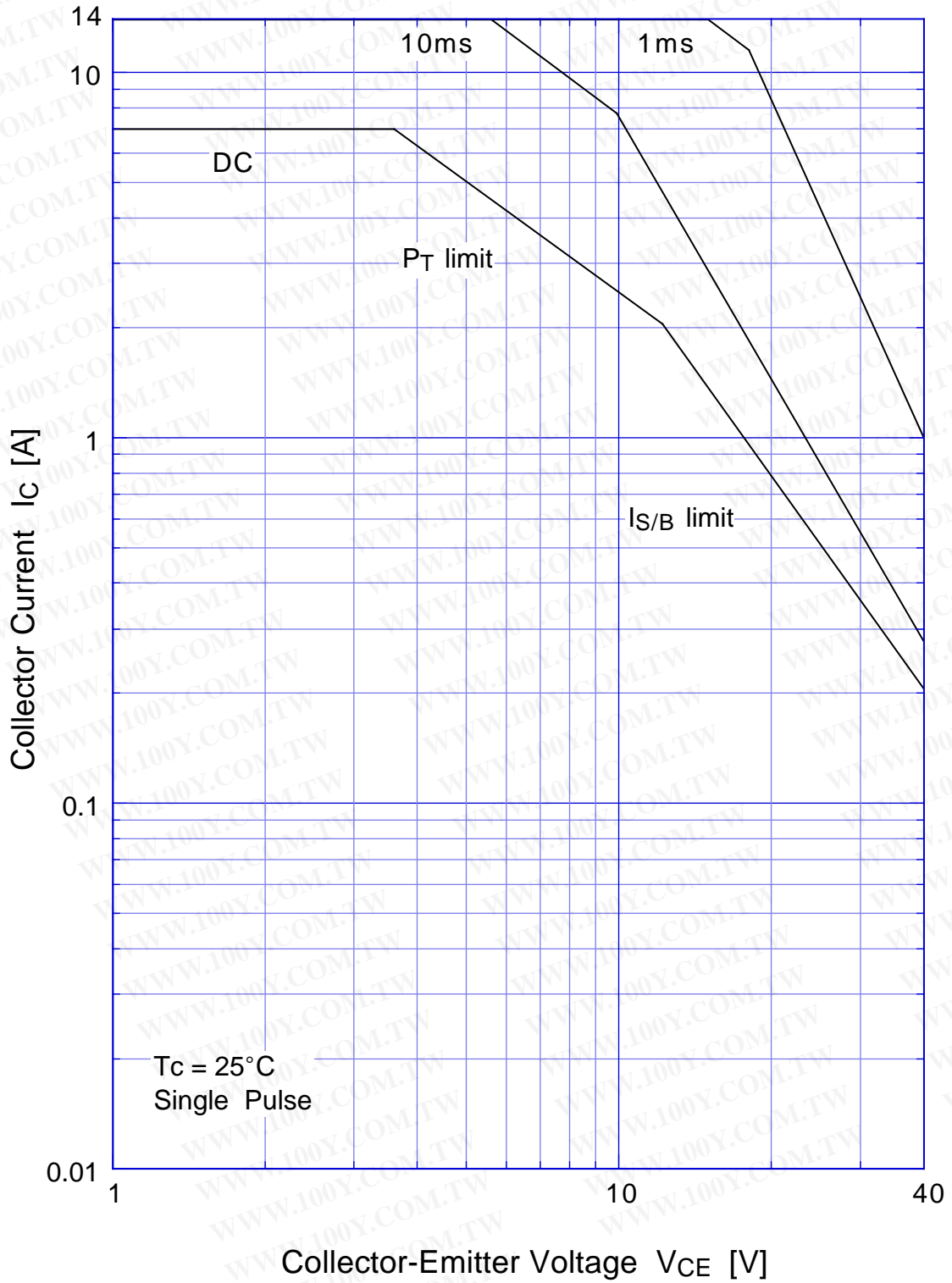


勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

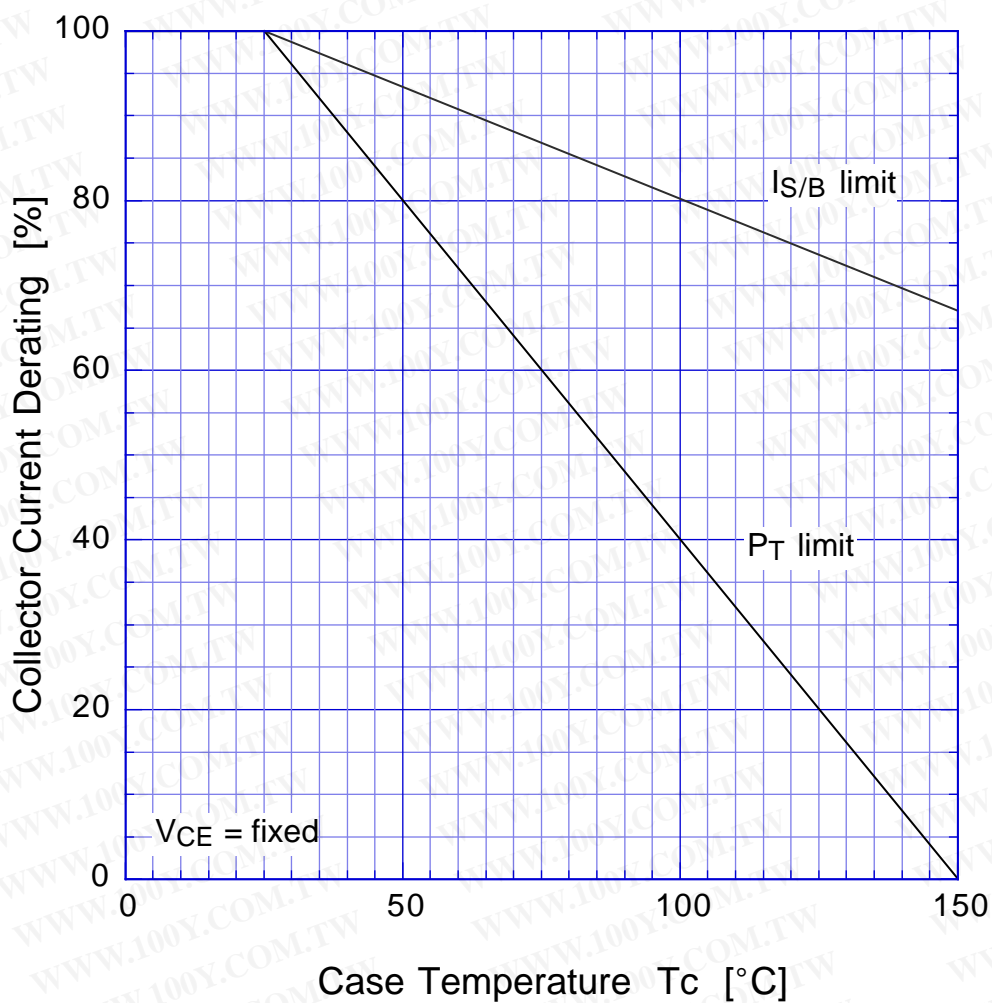


勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## 2SC4148 Forward Bias SOA



## 2SC4148 Collector Current Derating



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  
[Http://www.100y.com.tw](http://www.100y.com.tw)