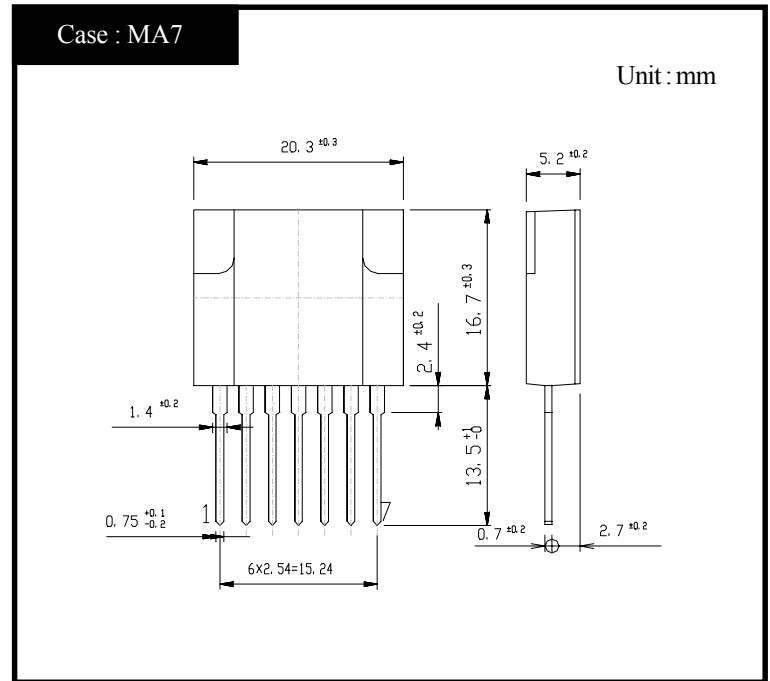


# MA3410

## OUTLINE DIMENSIONS



## RATINGS

### ●Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T <sub>stg</sub>		-30~125	°C
Operating Temperature	T <sub>op</sub>		-20~125	°C
Junction Temperature	T <sub>j</sub>		150	°C
Peak Input Voltage	V <sub>in</sub>	②+,④-, Fig.1 is Measurement Circuit of Peak Input Voltage V <sub>in</sub> and Collector Cutoff Current I <sub>CEX</sub> .	500	V
Input Current	I <sub>in</sub>	DC ②+,④-	3	A
Maximum Power Dissipation	P <sub>D</sub>	T <sub>a</sub> =25°C	6	A
	P <sub>D</sub>	Heatsink T <sub>c</sub> =100°C	3	W
Dielectric Strength	V <sub>dis</sub>	Terminals To Case AC 1 min	12	W
Insulation Resistance		Terminals To Case 500VDC	2	kV
Max Voltage ④ to ⑦	V(④·⑦)	④+,⑦-	100	MΩ
Max Current ⑥ to ④	I(⑥·④)	⑥+,④- (Peak) Duty Max 3/5	6	V
Max Current ⑤ to ④	I(⑤·④)	⑤+,④- (Q <sub>2</sub> Collector Current)	100	mA
			500	mA

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

Item	Symbol	Conditions	Ratings	Unit	
Q1	Collector Cutoff Current	I <sub>CEX</sub>	V <sub>CE</sub> =500V, Fig.1 is Measurement Circuit of Peak Input Voltage V <sub>in</sub> and Collector Cutoff Current I <sub>CEX</sub> , ②+,④-	MAX 100	μA
	DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1.5A, ②+,④-, ⑤I <sub>B</sub>	15~30	
	Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A, ②+,④-, ⑤I <sub>B</sub>	MAX 1.0	V
				MIN 1.7	V
	Driving Saturation Voltage	V <sub>D(sat)</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A, ②+,④-, ⑤I <sub>B</sub>	MAX 2.3	V
Thermal Resistance	θ <sub>jc</sub>	Junction to Case	MAX 4.1	°C/W	

●Standard Operating Condition•Design Standard For Application Circuit

Item	Conditions	Ratings	Unit
Input Rated Voltage		AC85~132	V
Output Nominal Wattage		40	W
Output Nominal Voltage		12	V
Output Nominal Current		3.3	A

●Standard Operating Condition•Standard Operating Characteristics (Ta=25°C)

Item	Conditions	Ratings	Unit		
AC Input Voltage	$I_o=3.3A, 10.5V \leq V_o \leq 12.6V$	MAX 85	V		
Minimum Input Full Load Output Voltage	$V_{in}=90V, I_o=3.3A$	$12.0 \pm 0.6$	V	Fig 2, ① Refer	
Maximum Input Light Load Output Voltage	$V_{in}=132V, I_o=0.0A$	$12.0 \pm 0.6$	V	Fig 2, ② Refer	
Over Current Protection	Foldback Current	$V_{in}=132V, V_o=10V$	MAX 5.3	A	Fig 2, ③ Refer
	Short Circuit	$V_{in}=132V, R_o=0.5\Omega$	Nodamage To Any Device, Automatic Recovery.	-	Fig 2, ④ Refer

Figure in ○=Terminal Sign

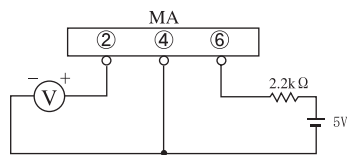


Fig1. Measurement Circuit

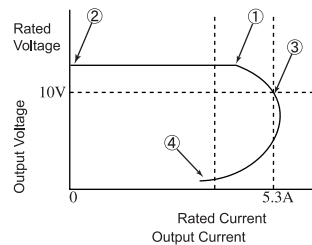
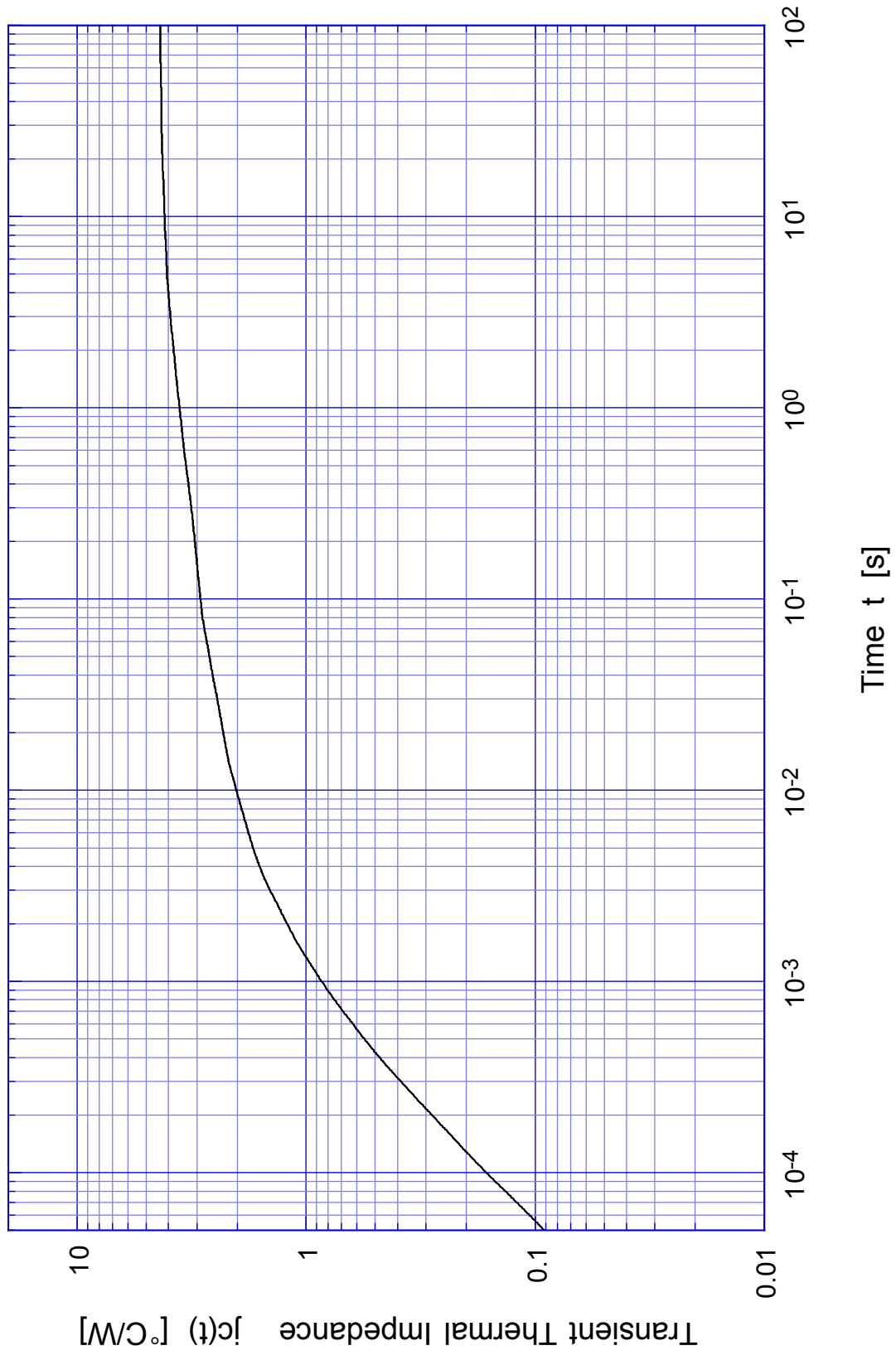


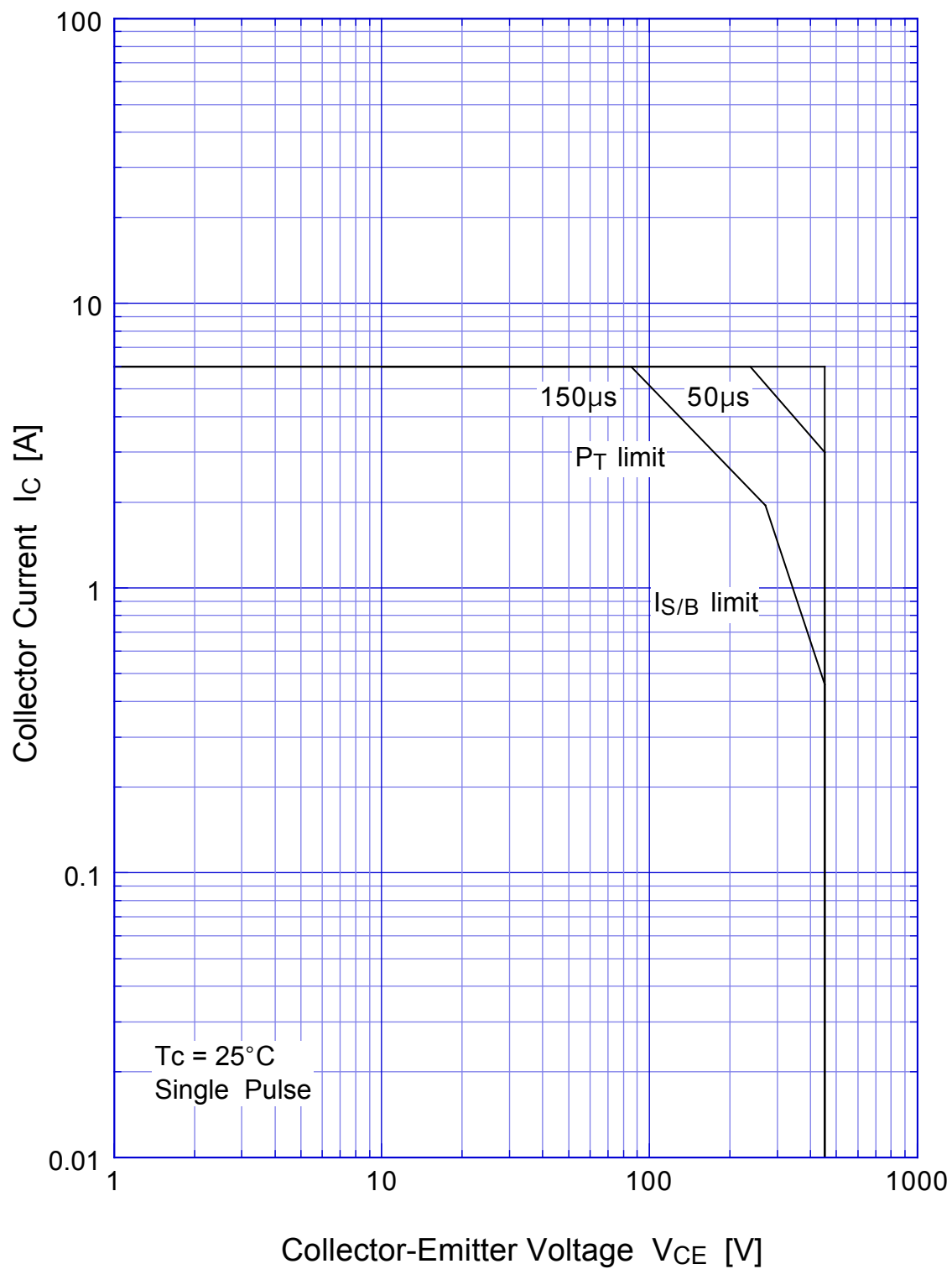
Fig2. Output Voltage/Current

MA3410 Transient Thermal Impedance



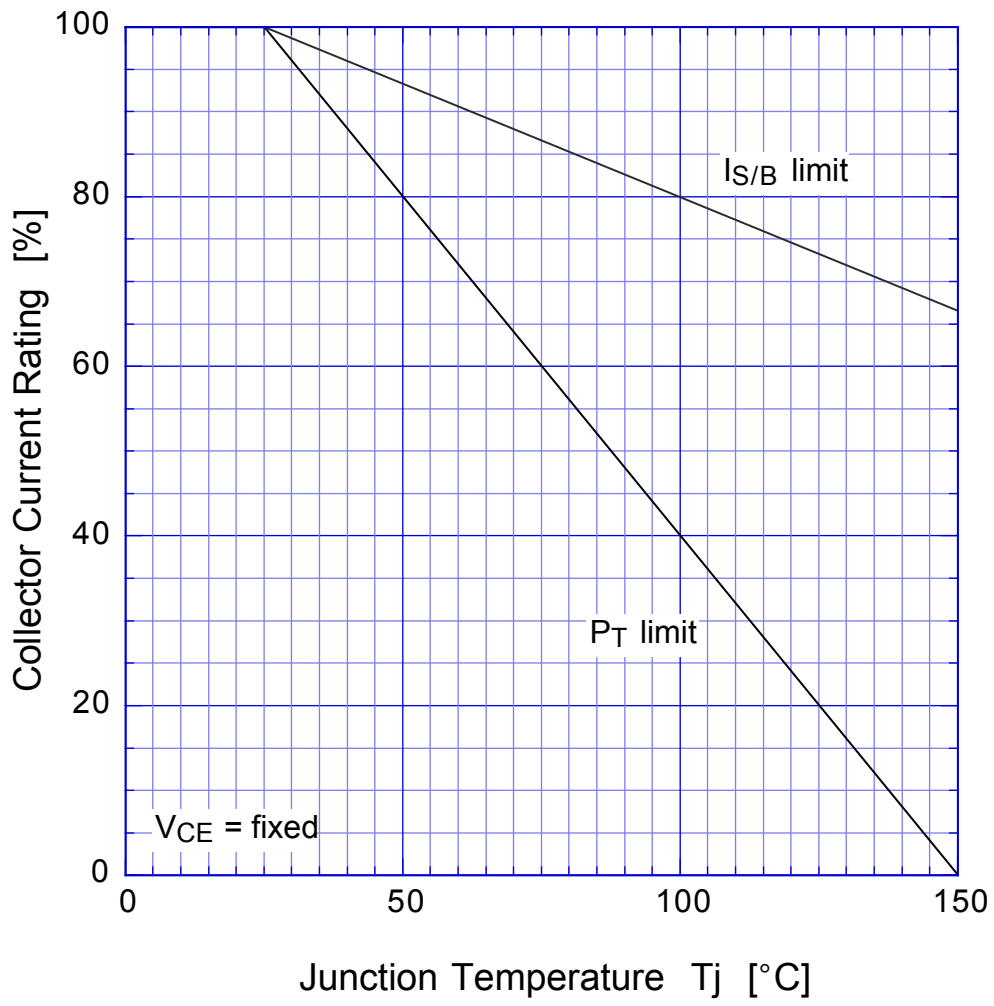
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# Forward Bias SOA



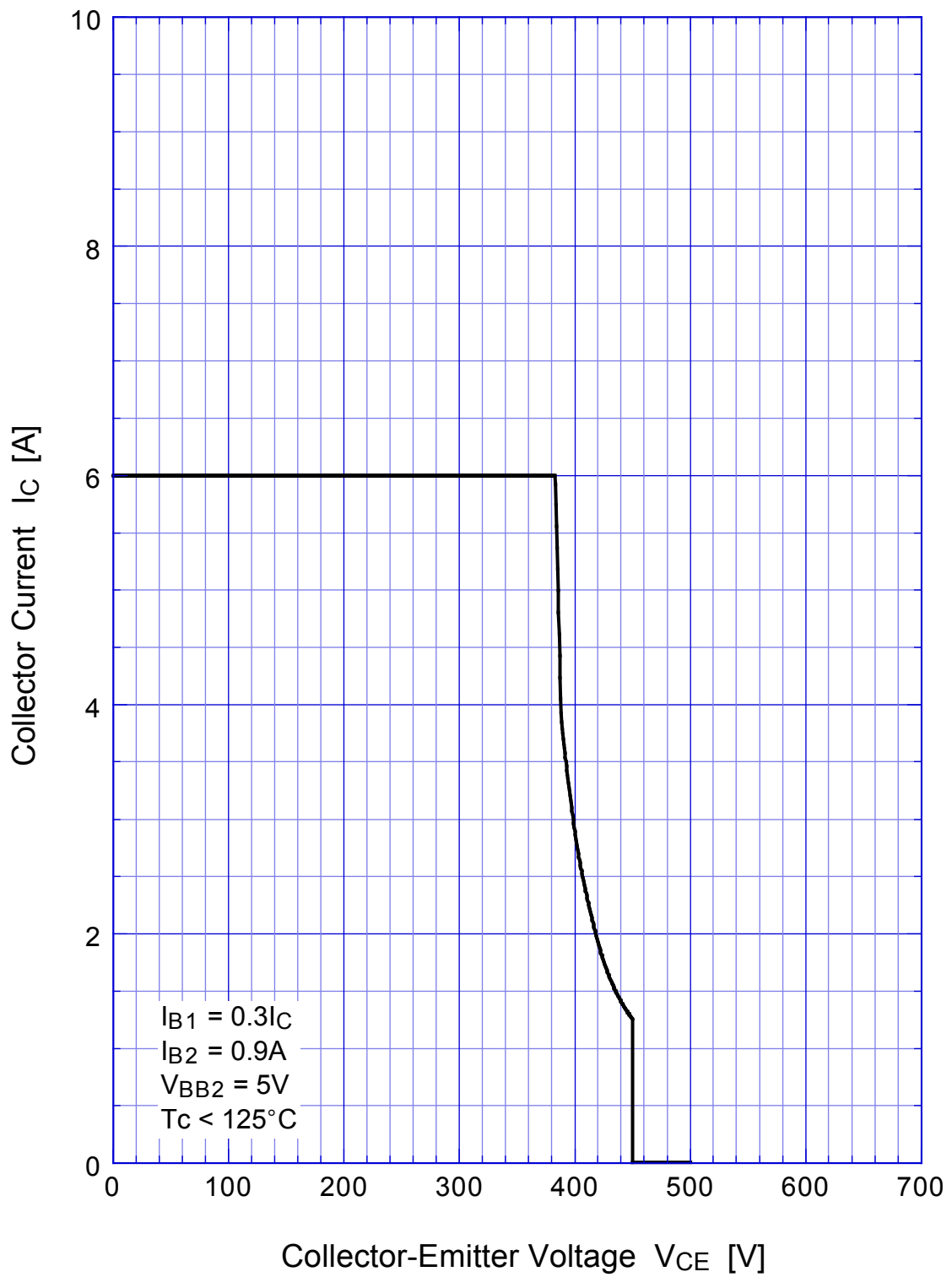
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## Collector Current Derating



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Reverse Bias SOA



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## $h_{FE} - I_C$

