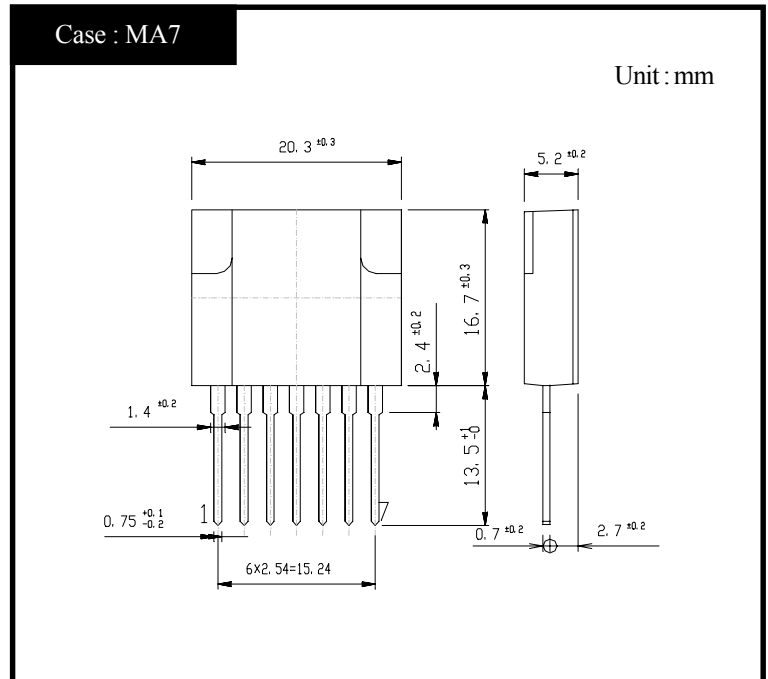


# MA3450

## OUTLINE DIMENSIONS



## RATINGS

### Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	Tstg		-30~125	°C
Operating Temperature	Top		-20~125	°C
Junction Temperature	Tj		150	°C
Peak Input Voltage	Vin	②+,④-,Fig.1 is Measurement Circuit of Peak Input Voltage Vin and Collector Cutoff Current I <sub>CEX</sub> .	500	V
Input Current	Iin	DC ②+,④-	10	A
Maximum Power Dissipation	P <sub>D</sub>	Pulse ②+,④- Pulse Width 150 μs MAX, Duty 1/2, Sawtooth Wave, Peak Value.	20	A
	P <sub>D</sub>	Ta=25°C	3	W
	P <sub>D</sub>	Heatsink Tc=100°C	20	W
Dielectric Strength	Vdis	Terminals To Case AC 1 min	2	kV
Insulation Resistance		Terminals To Case 500VDC	100	MΩ
Max Voltage ④ to ⑦	V④·⑦	④+,⑦-	6	V
Max Current ⑥ to ④	I⑥·④	⑥+,④- (Peak) Duty Max 3/5	100	mA
Max Current ⑤ to ④	I⑤·④	⑤+,④- (Q <sub>2</sub> Collector Current)	500	mA

### Electrical Characteristics (Tc=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 Vin 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> = 5A, ②+,④-,⑤I <sub>B</sub>	15~30	
	Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =1.0A, ②+,④-,⑤I <sub>B</sub>	MAX 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 2.5	°C/W

●Standard Operating Condition•Design Standard For Application Circuit

Item	Conditions	Ratings	Unit
Input Rated Voltage		AC85~132	V
Output Nominal Wattage		100	W
Output Nominal Voltage		24	V
Output Nominal Current		4.2	A

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

Item	Conditions	Ratings	Unit		
AC Input Voltage	$I_o=4.2A, 20.5V \leq V_o \leq 24.6V$	MAX 85	V		
Minimum Input Full Load Output Voltage	$V_{in}=90V, I_o=4.2A$	$24.0 \pm 0.6$	V	Fig 2, ① Refer	
Maximum Input Light Load Output Voltage	$V_{in}=132V, I_o=0.0A$	$24.0 \pm 0.6$	V	Fig 2, ② Refer	
Over Current Protection	Foldback Current	$V_{in}=132V, V_o=20V$	MAX 6.0	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

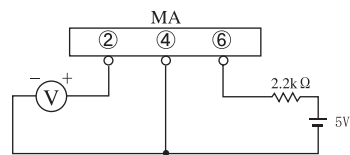


Fig1. Measurement Circuit

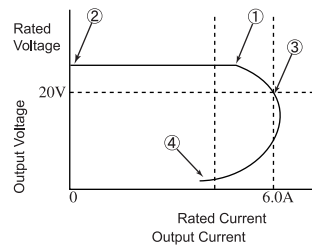
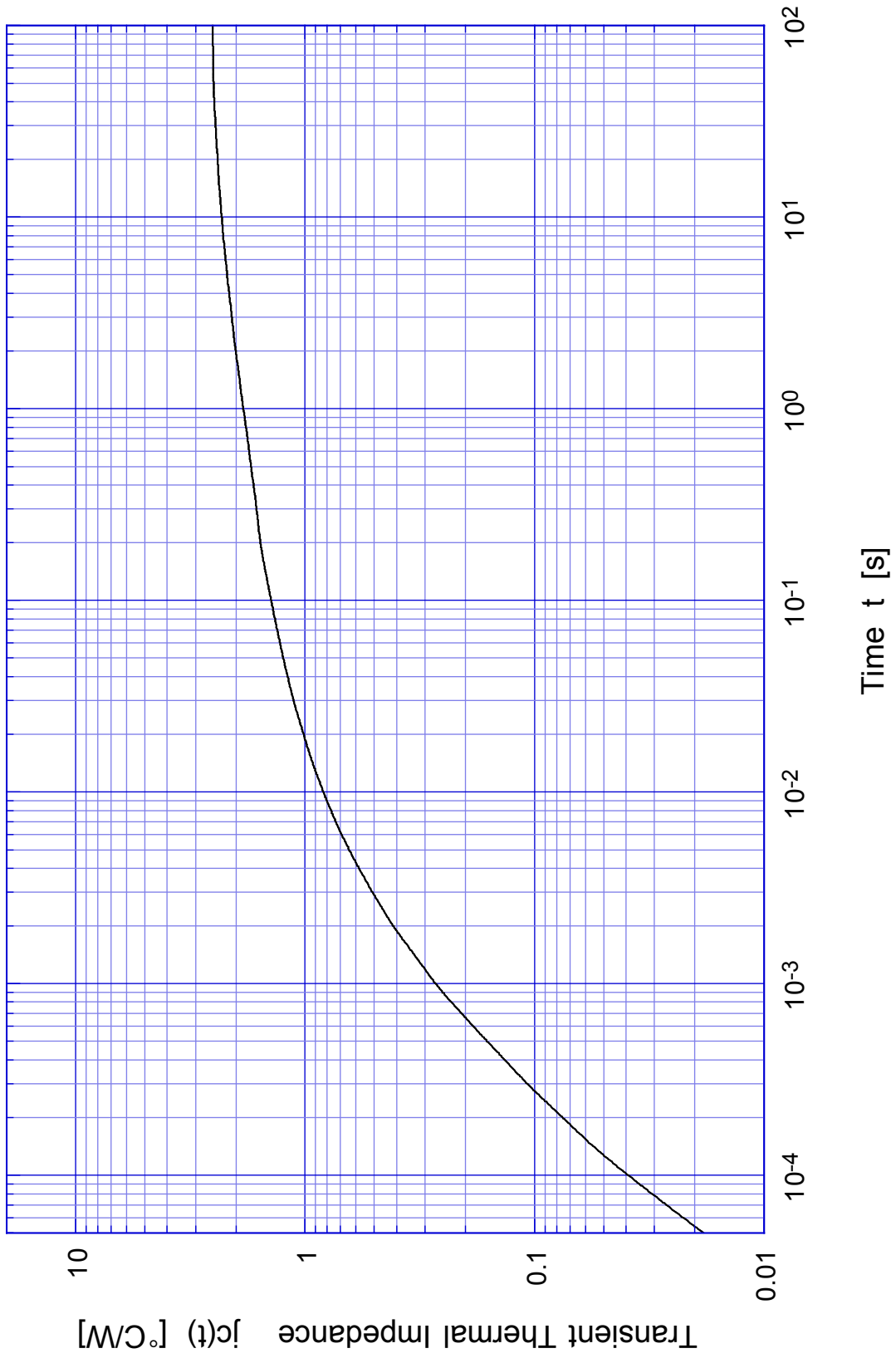


Fig2. Output Voltage/Current

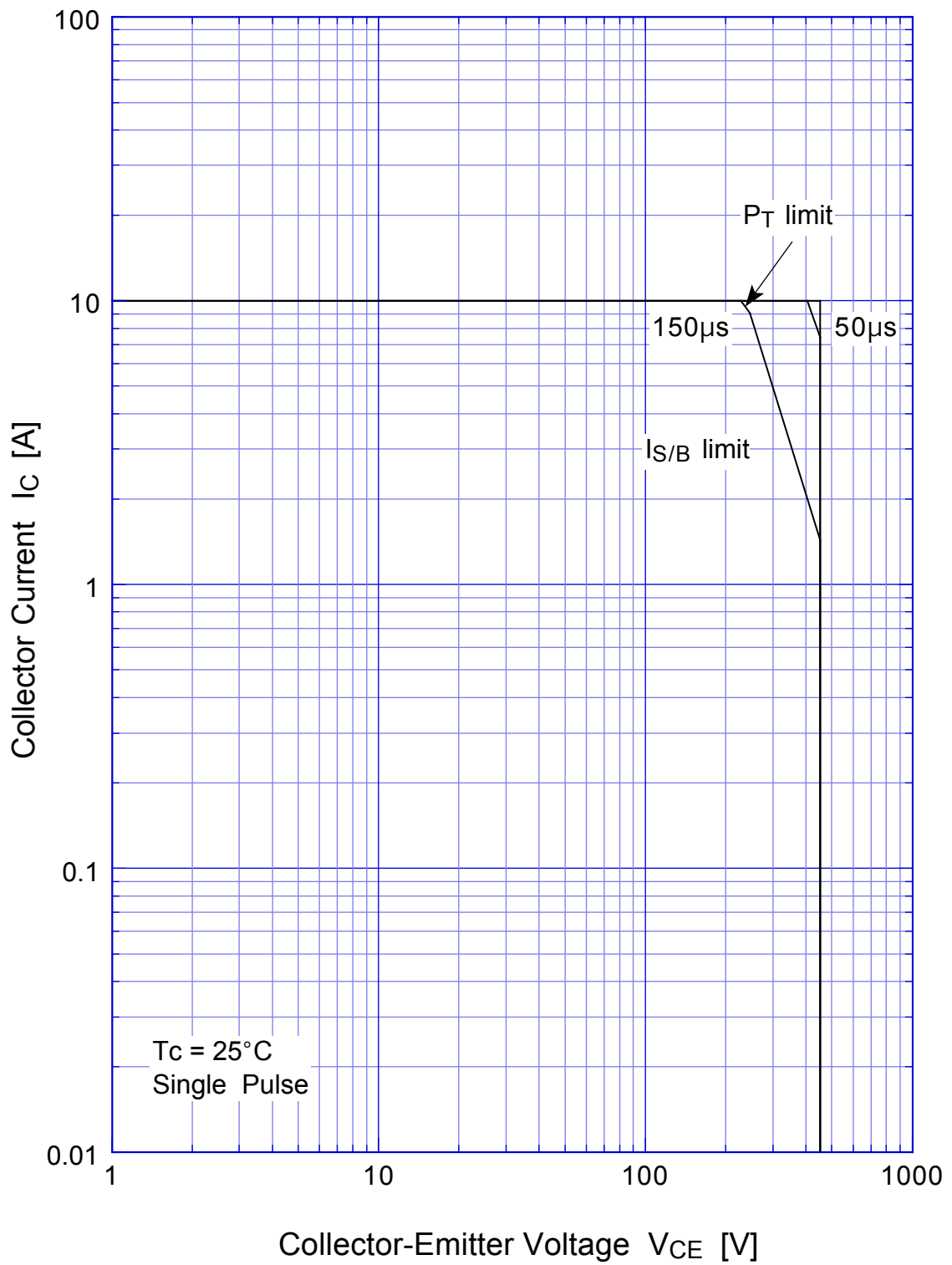
MA3450 Transient Thermal Impedance

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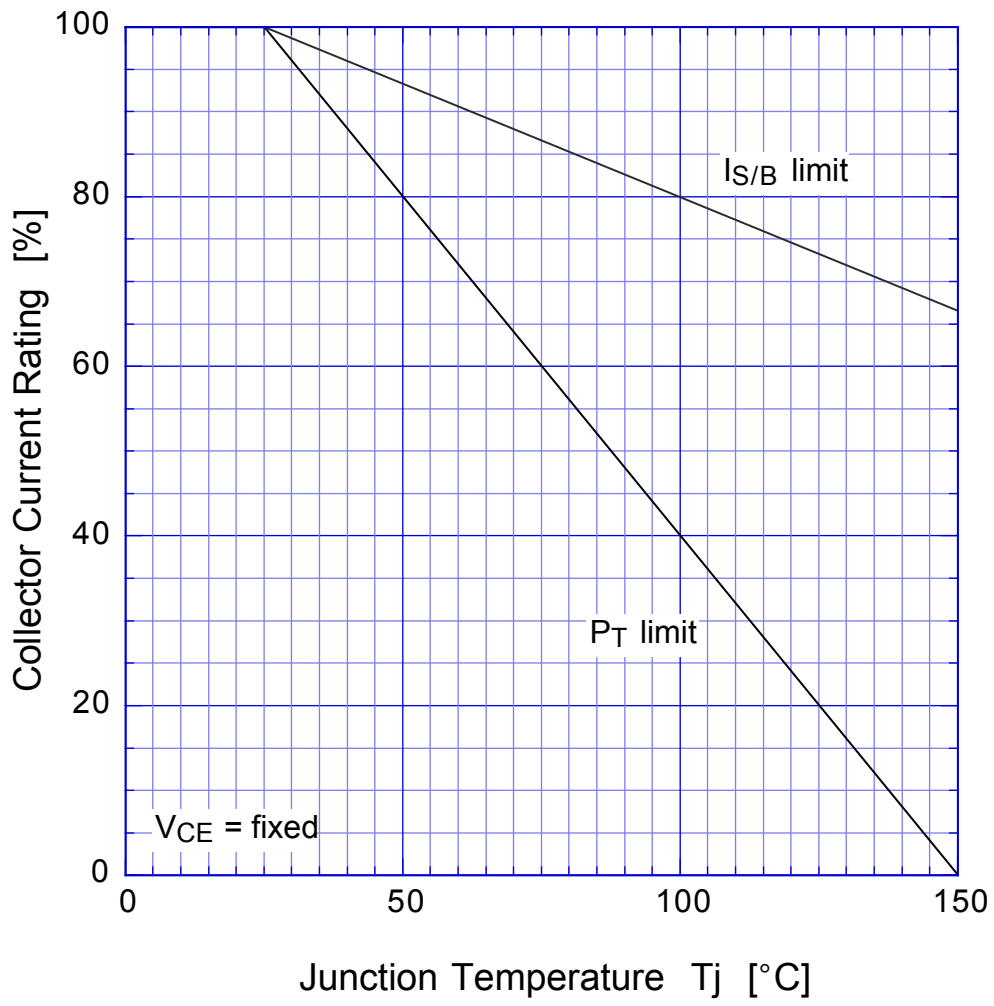
# MA3450

# Forward Bias SOA



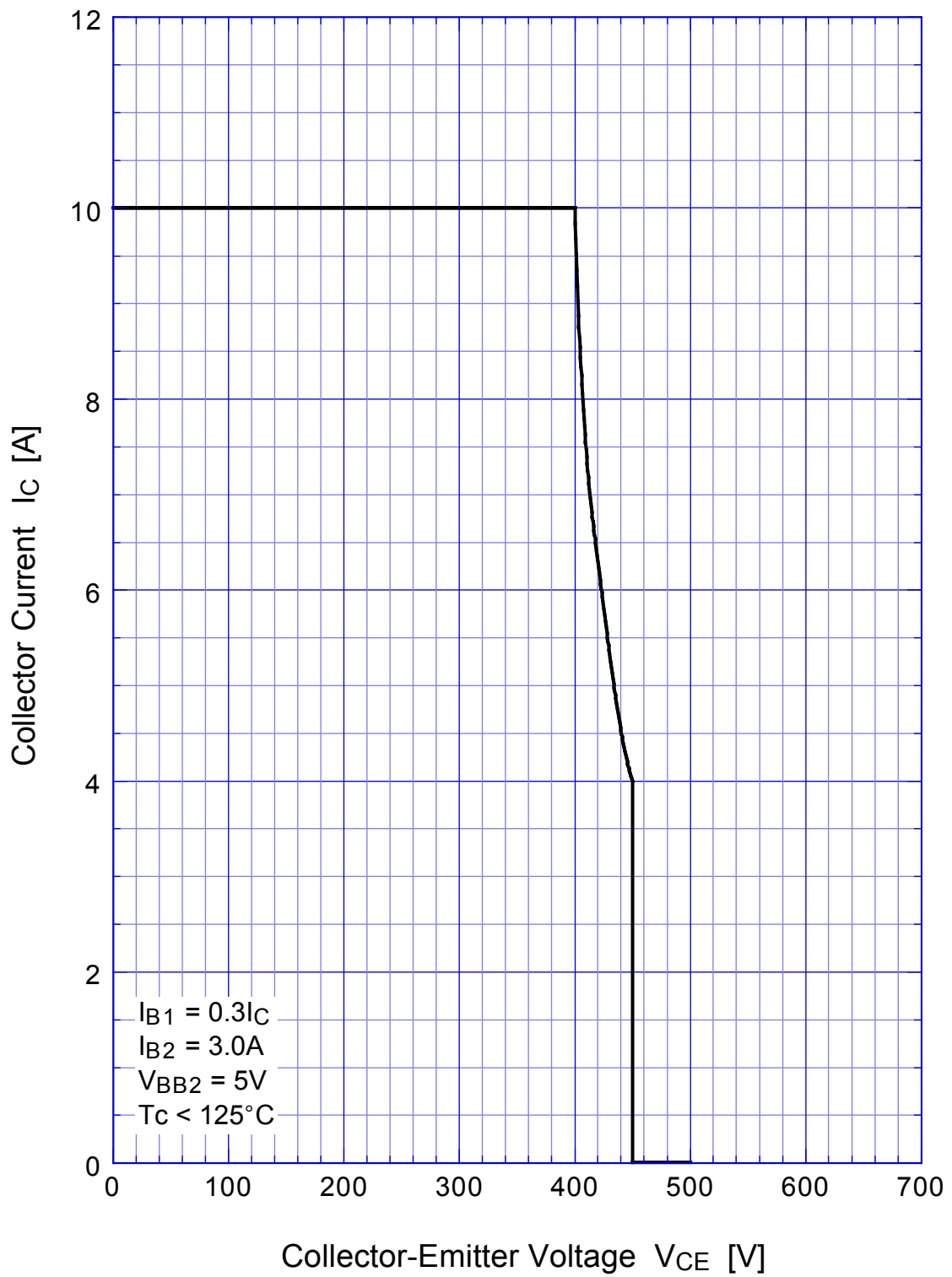
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## Collector Current Derating



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Reverse Bias SOA



# MA3450

## $h_{FE} - I_C$

