

Ratings and characteristics of Fuji IGBT

1MBH60-100

1. Absolute maximum ratings (Tc=25°C)

Items	Symbols	Ratings	Units	
Collector-Emitter Voltage	V _{CEs}	1000	V	
Gate-Emitter Voltage	V _{GES}	±20	V	
Collector Current	Continuos	I _c	60	A
	Pulse-50μs	I _c pulse	180	A
Max.Power Dissipation	P _c	260	W	
Operating Temperature	T _j	+ 150	°C	
Storage Temperature	T _{stg}	-40 ~ +150	°C	

2. Static electrical Characteristics (at Tc=25°C unless otherwise specified)

Items	Symbols	Characteristics			Conditions		Unit
		min.	typ.	max.			
Zero gate voltage collector current	I _{CEs}			100	T _c =25°C	V _{GE} =0V V _{CE} =900V	μA
Gate-Emitter leakage Current	I _{GES}			100	T _c =125°C	V _{CE} = 0V V _{GE} = ±20V	nA
Gate-Emitter Threshold Voltage	V _{GE (th)}	2.0		6.0	V _{CE} = 10V I _c = 10mA		V
Collector-Emitter Saturation Voltage	V _{CE (sat)}			3.2	V _{GE} = 15V I _c = 60A		V

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 (Drawing revision) Feb. 4, 92

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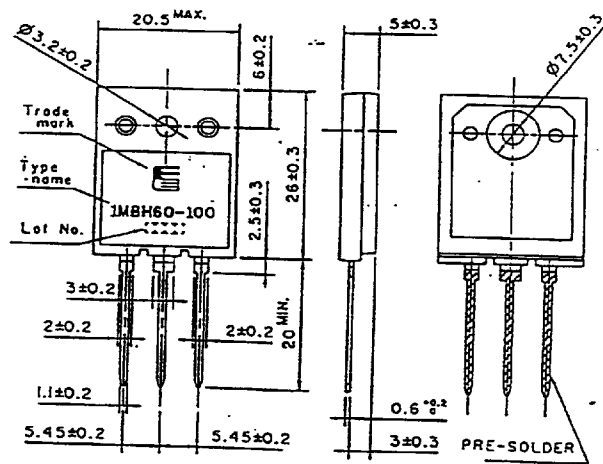
3. Dynamic ratings (at $T_c=25\text{ }^\circ\text{C}$ unless otherwise specified)

Items	Symbols	Characteristics			Conditions	Unit
		min.	typ.	max.		
Input capacitance	Cies		3000		$V_{GE} = 0V$ $V_{CE} = 25V$ $f = 1MHz$	pF
Output capacitance	Coes		—			
Reverse transfer capacitance	Cres		—			
Turn-on time	ton			—	$V_{CC} = 200V$ $I_C = 60A$ $V_{GE} = \pm 15V$ $R_G = 8\ \Omega$ $R_L = 3.3\ \Omega$ See Fig.1	μS
	tr			—		
Turn-off time	toff			—		
	tf			0.85		

4. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Unit
		min.	typ.	max.		
Thermal resistance	Rth(j-c)			0.481		$^\circ\text{C}/W$

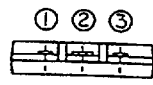
5. Outline Drawing



DIMENSIONS ARE IN MILLIMETERS.

CONNECTION

- ① GATE
- ② COLLECTOR
- ③ EMITTER



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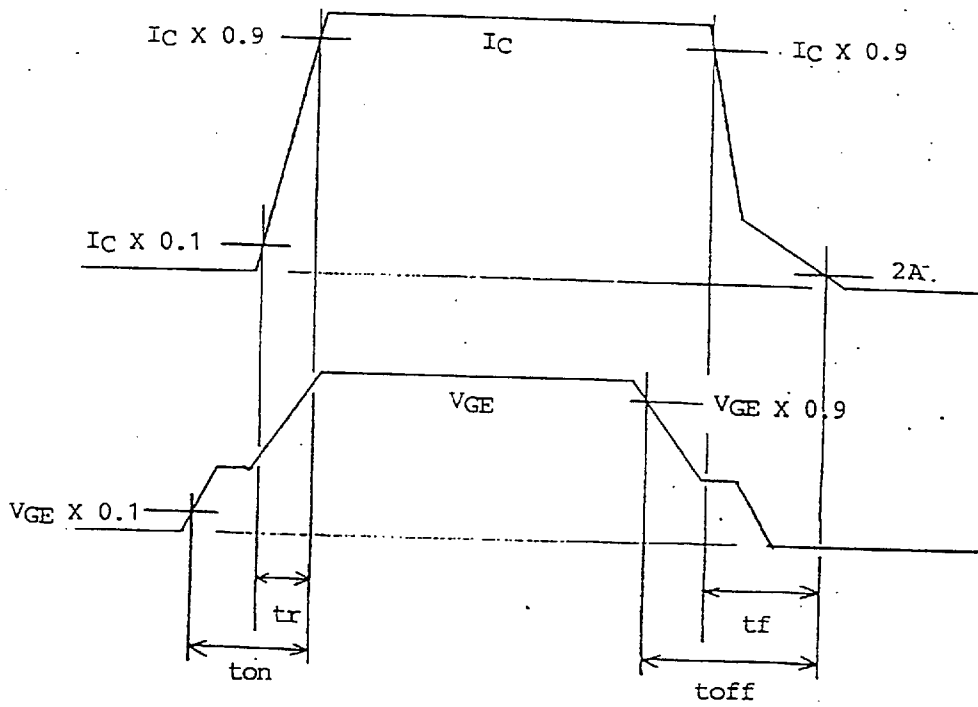
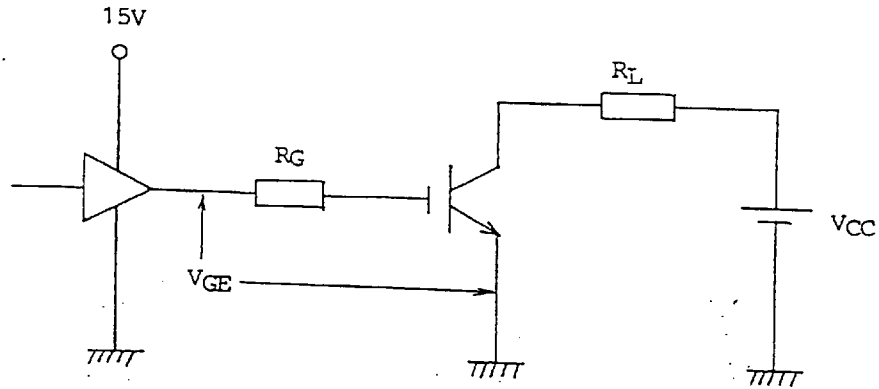
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Fig.1 Test circuit of switching characteristics



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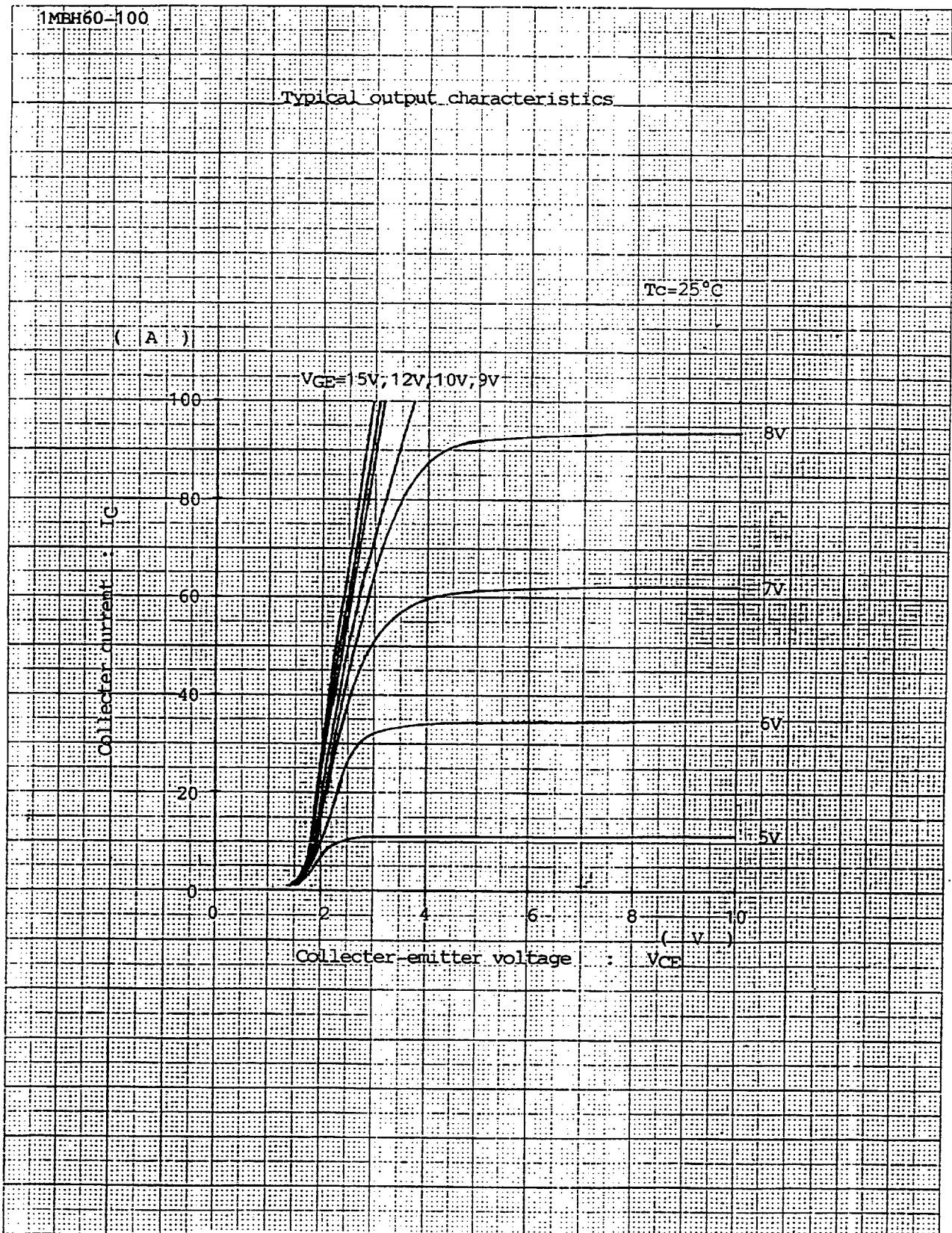
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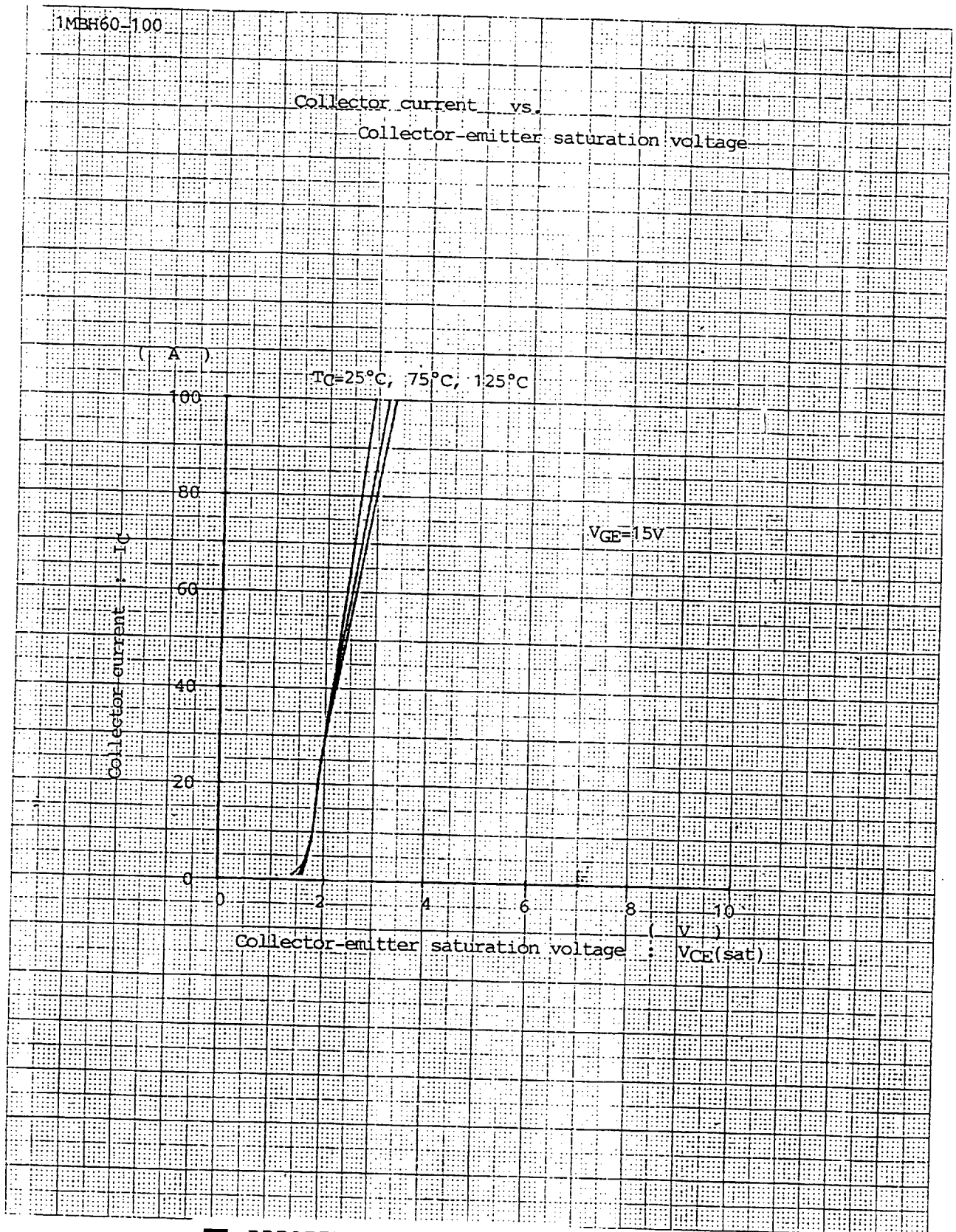
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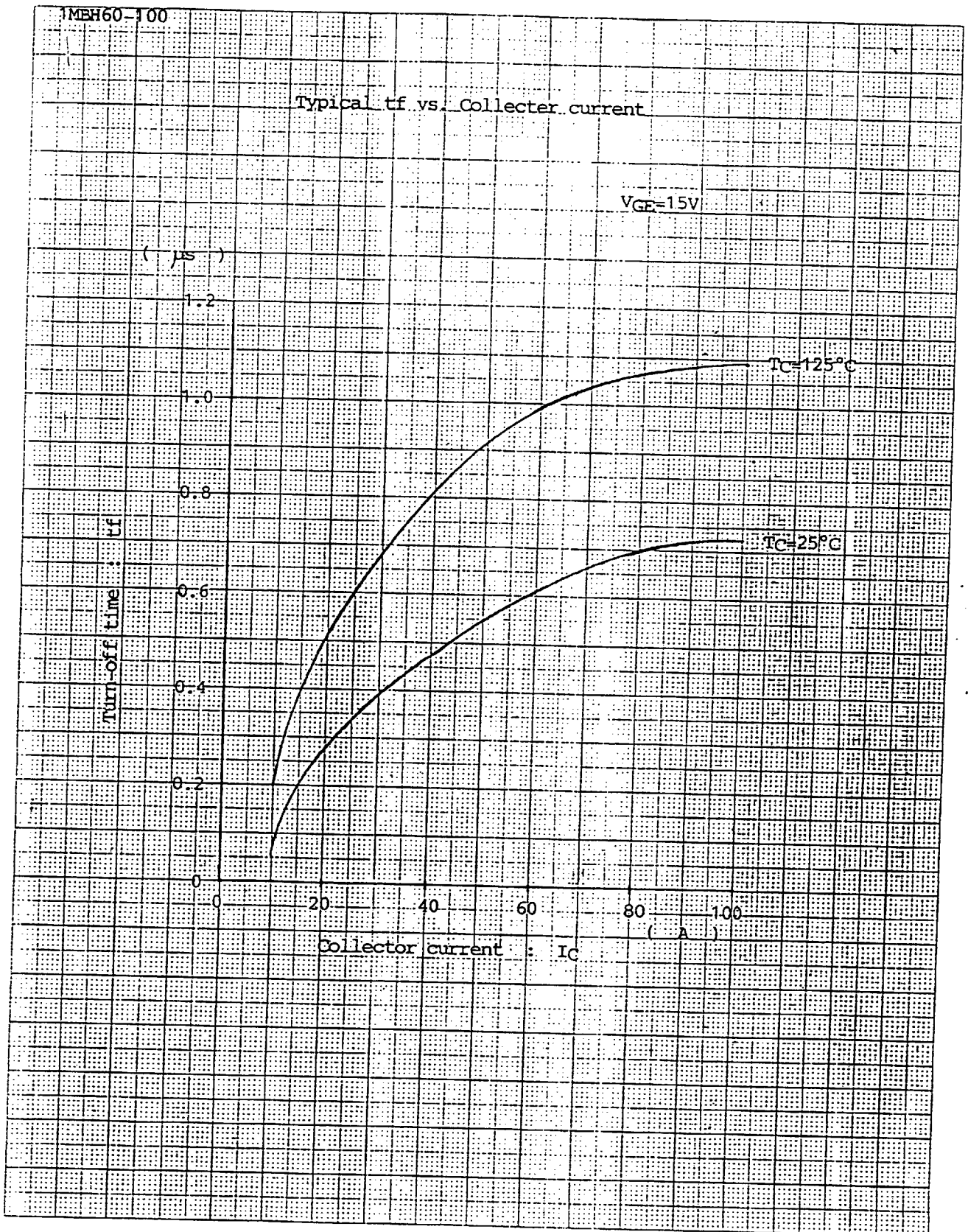
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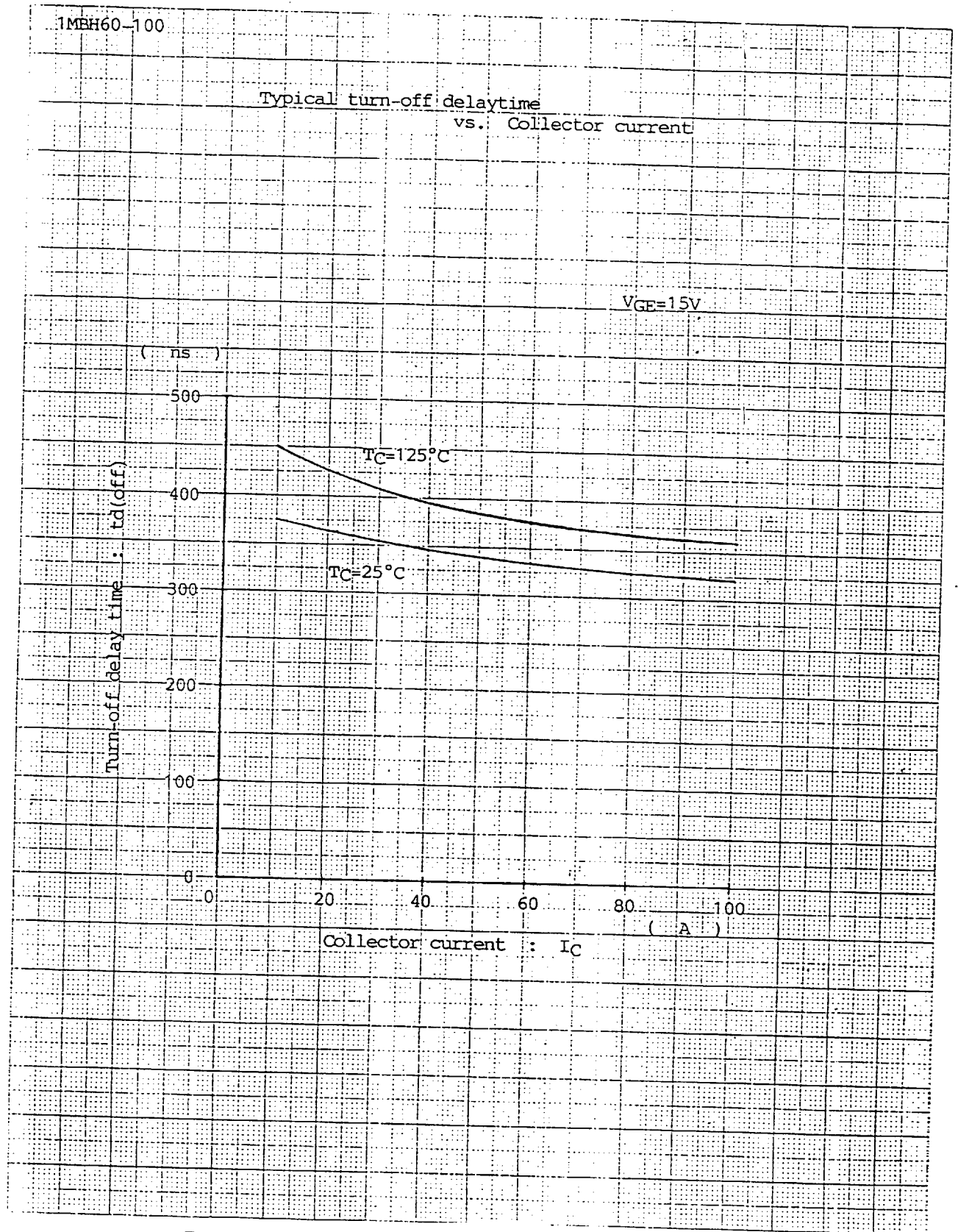
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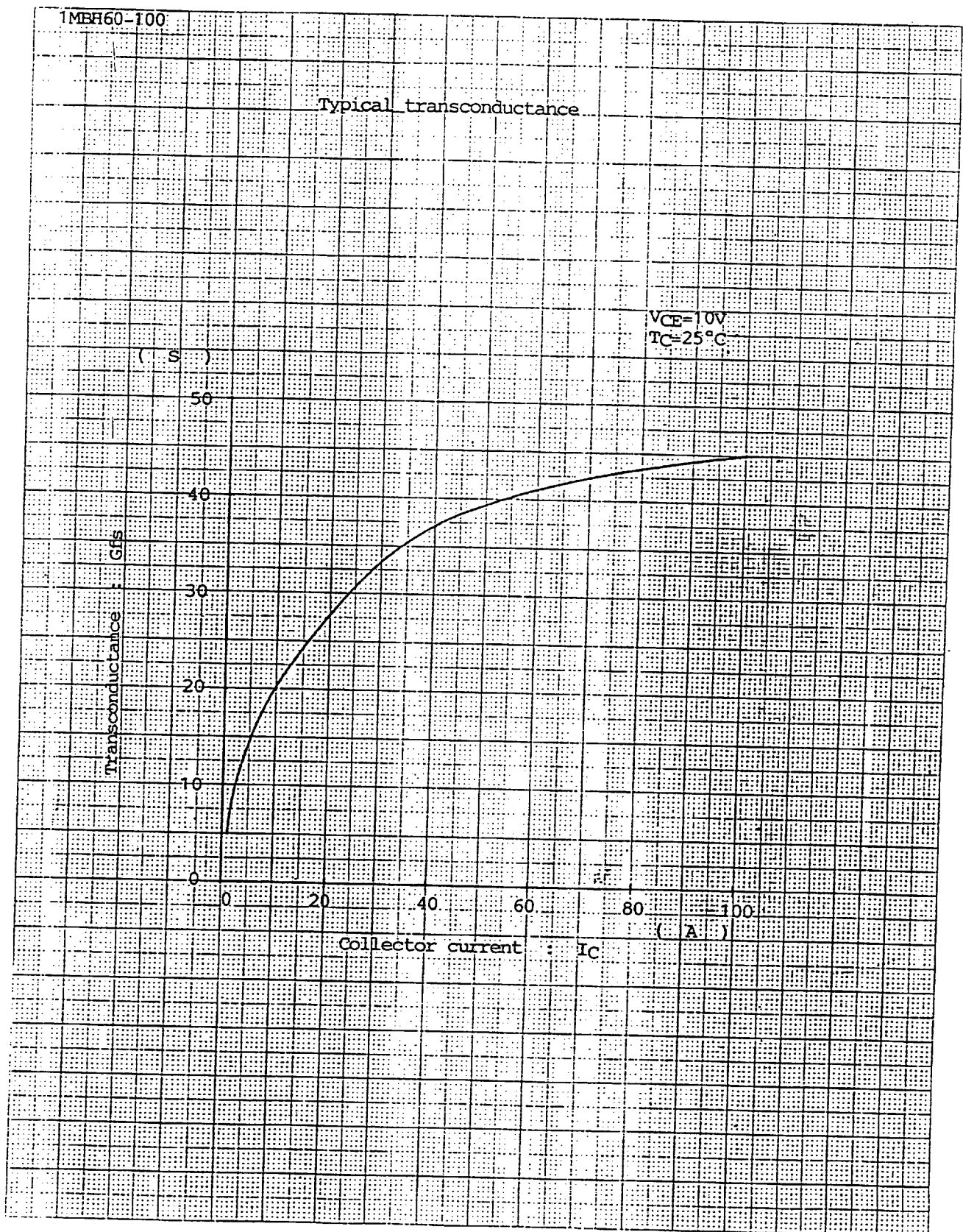


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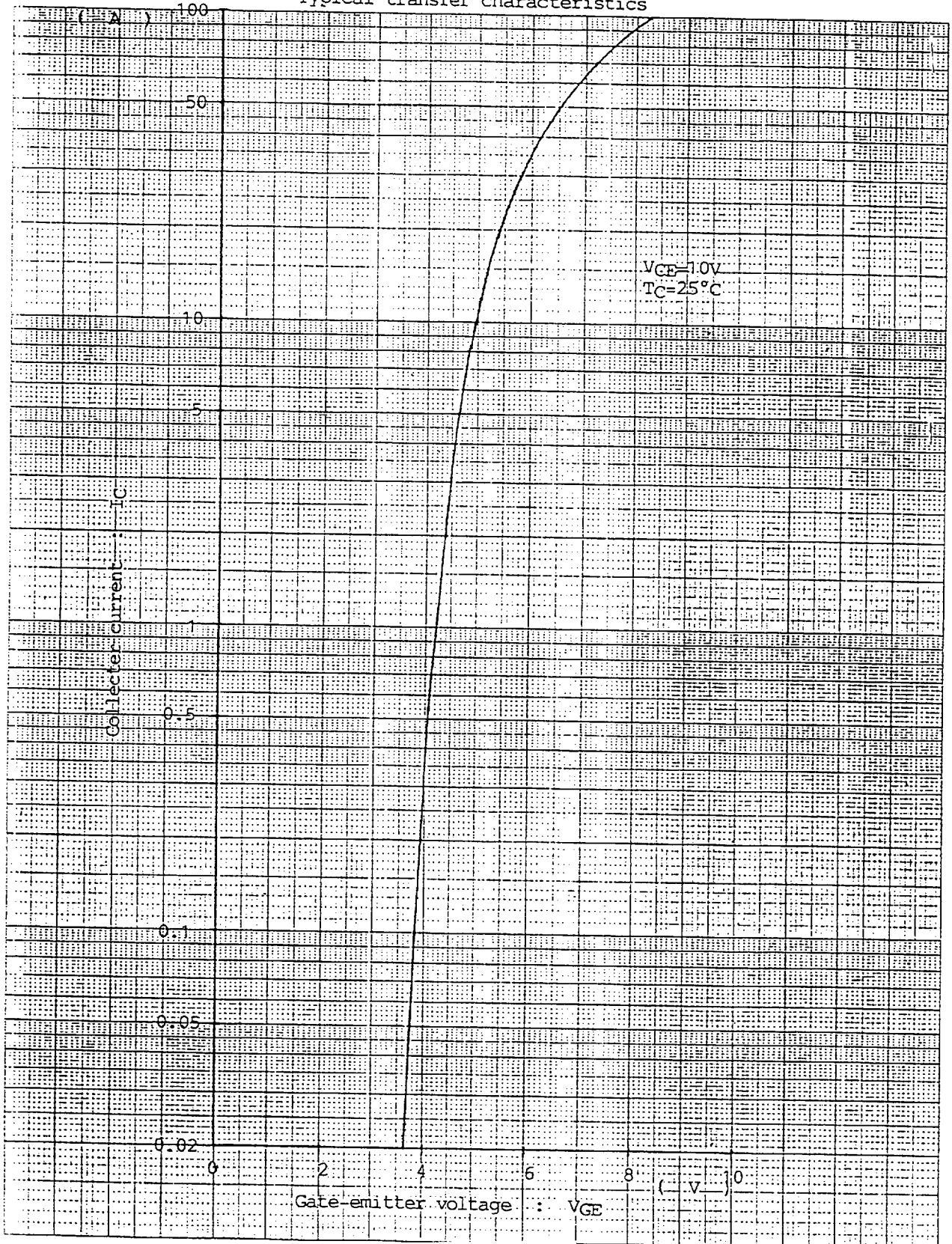


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Typical transfer characteristics

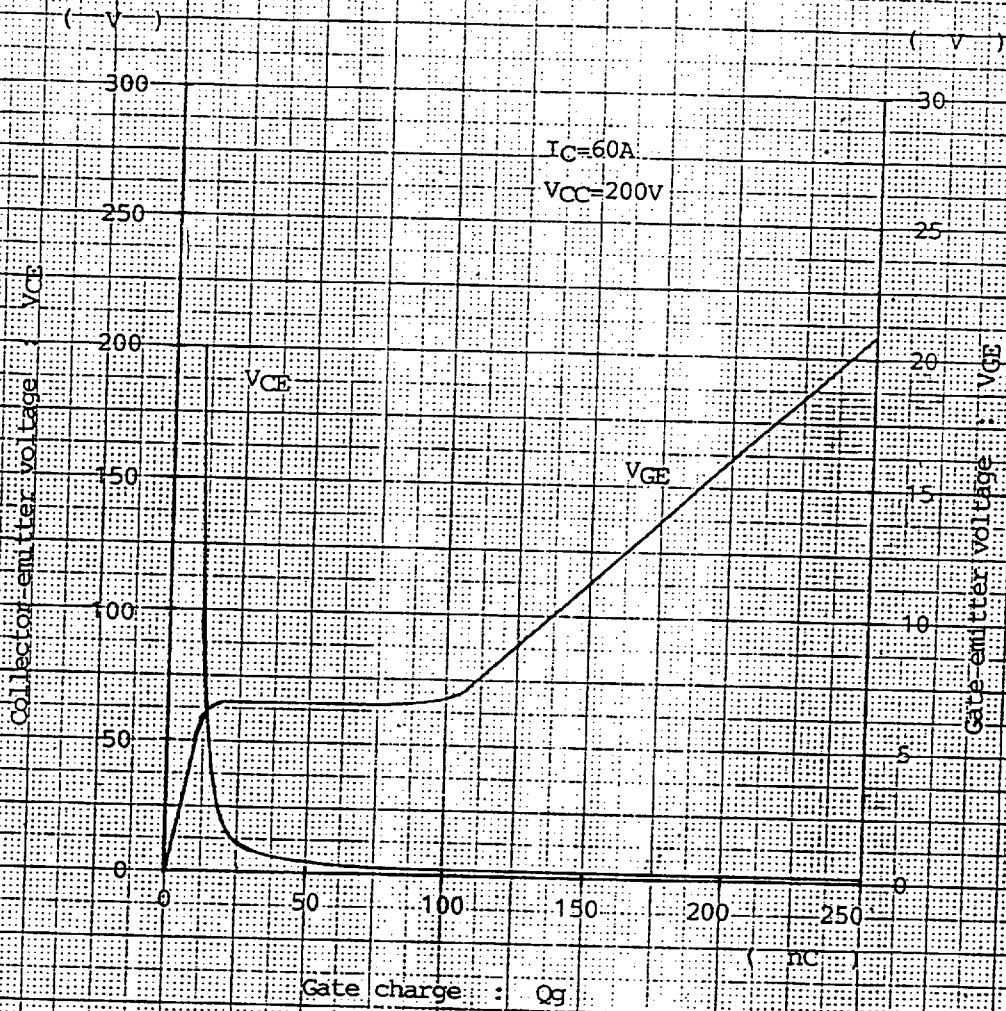


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Dynamic input characteristics



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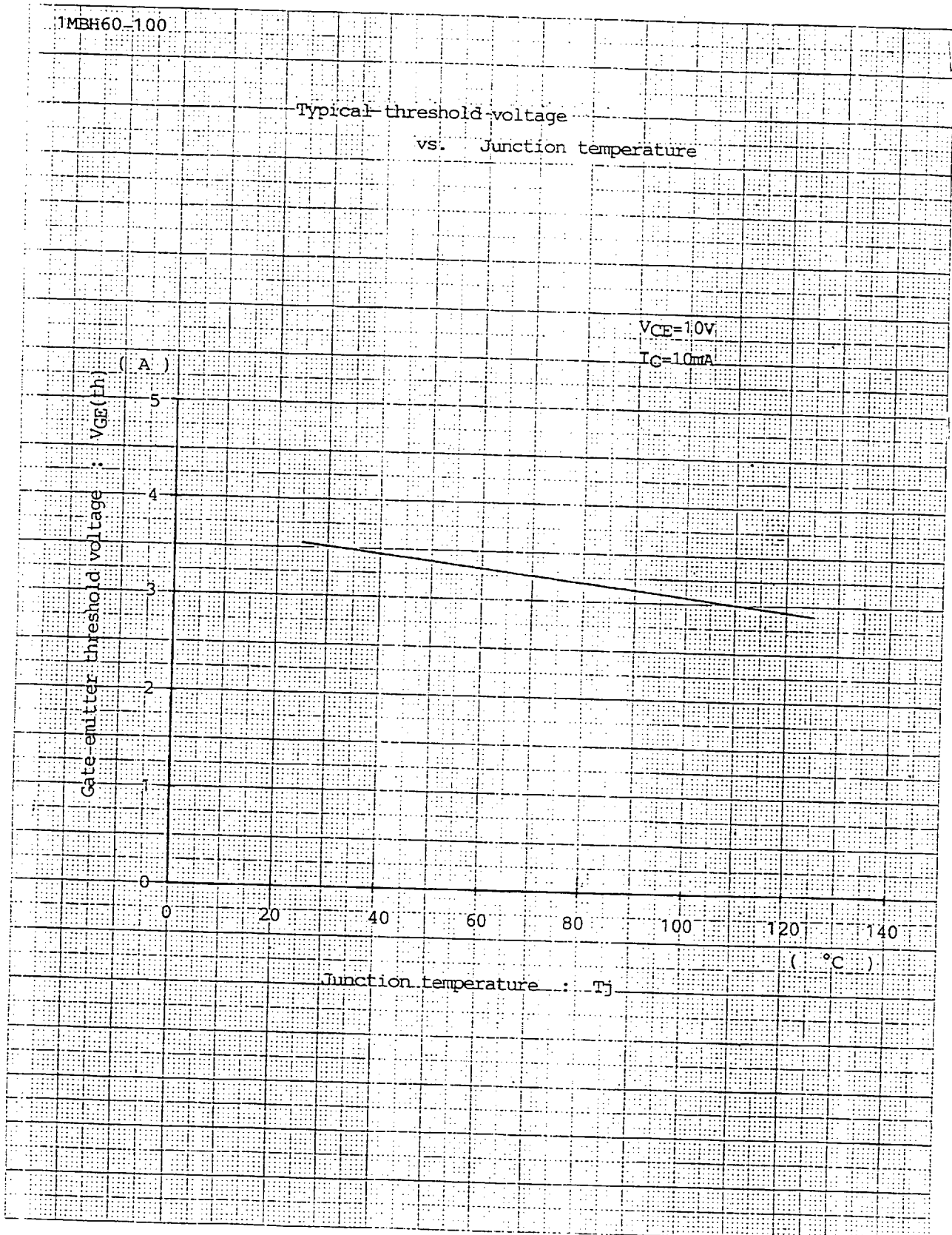
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Typical threshold voltage
vs. Junction temperature

Gate-emitter threshold voltage : $V_{GE(th)}$ (V)

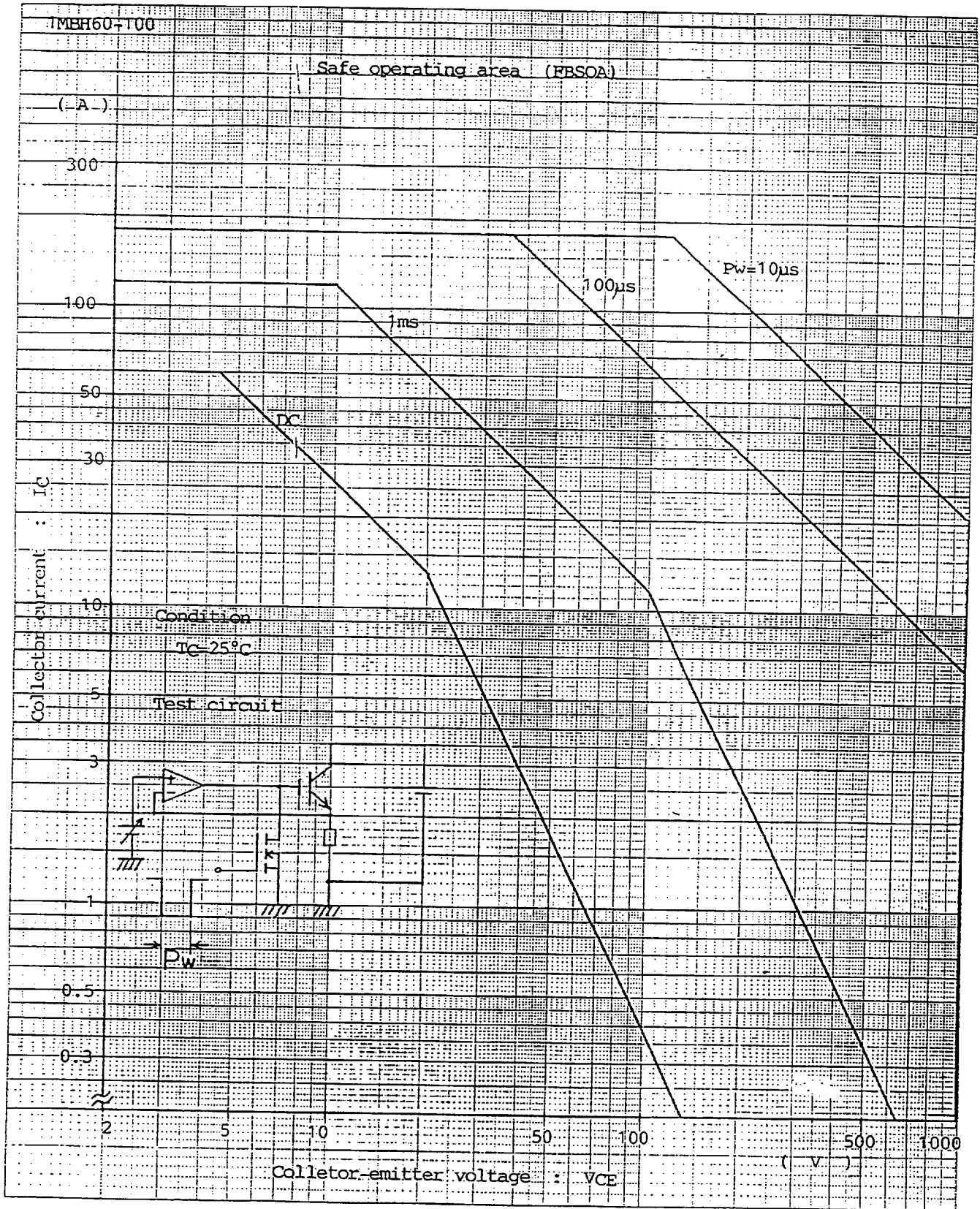
$V_{CE}=1.0V$
 $I_C=10mA$

Junction temperature : T_j ($^{\circ}C$)



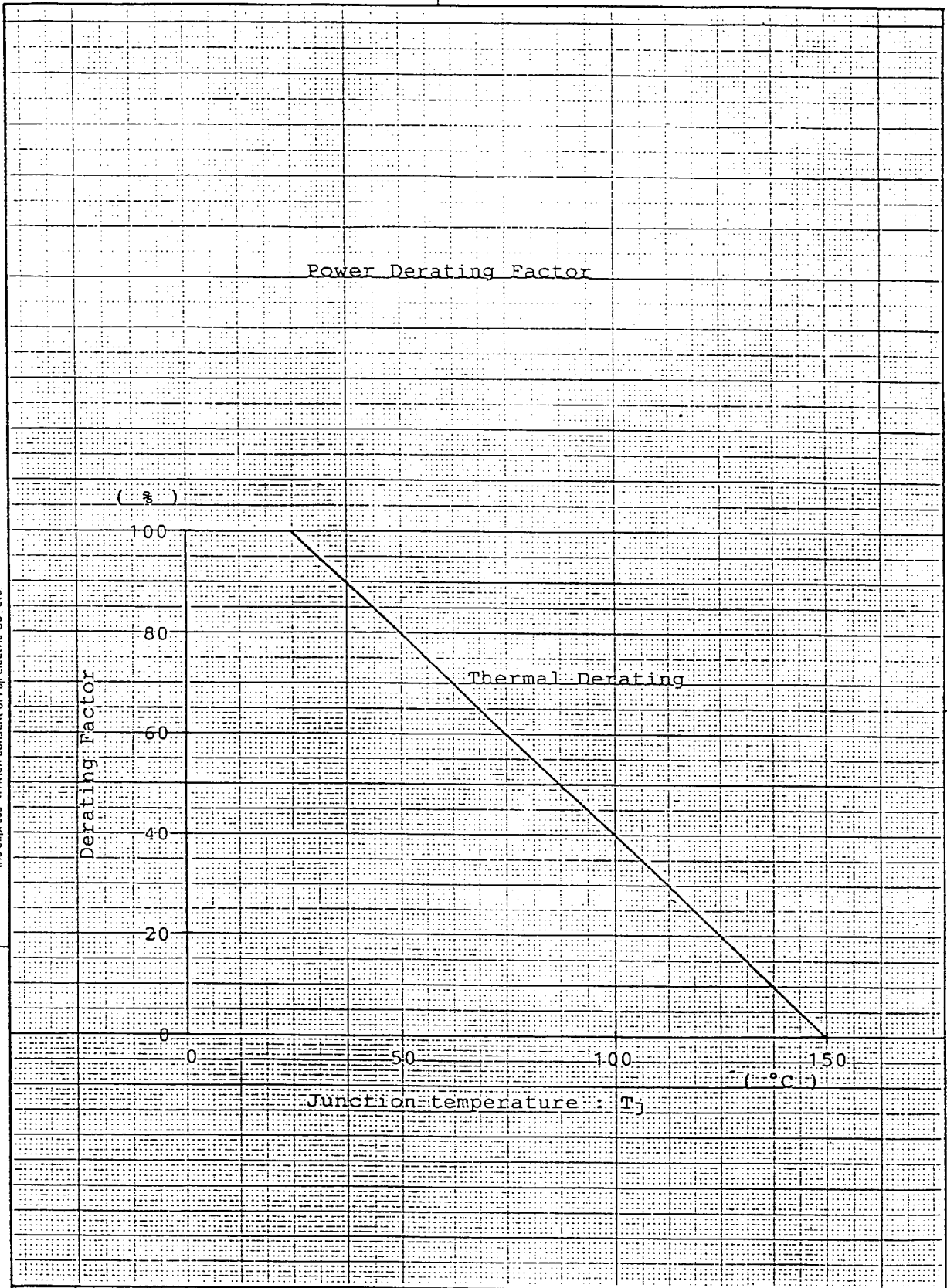
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