Ratings and characteristics of FUJI IGBT

1. 1MBH50-090 (MBT002)

2. Abosolute maximum ratings (Tc=25℃)

Items	Symbols	Ratings	Conditions	Unit
Collector-Emitter Voltage	V_{CES}	900		V
Gate-Emitter Voltage	V_{GES}	± 20		V
Collector-Current	I_C	50		A
	I_{CP}	150	50μs	A
Max.Power dissipation	PC	200		W
Operating temperature	Tj	+150		℃
Storage temperature	Tstg	-40～+150		℃

3. Electrical characteristics (Tc=25℃)

Items	Symbols	Conditions	MIN.	TYP.	MAX.	Unit
Collector-cutoff current	I_{CES}	V_{CE}=800V, V_{GE}=0V			100	μA
Gate-leakge current	I_{GES}	V_{GE}= 20V, V_{CE}=0V			100	nA
Collector-Emitter Voltage	V_{CE}	I_C = 1mA, V_{GE}=0V	900			V
Threshold Voltage	V_{GE}(th)	I_C =10mA, V_{CE}=10V	2.0		6.0	V
Collector-emitter saturation voltage	V_{CE}(sat)	I_C = 50A, V_{GE}=15V			3.6	V
Input capacitance	Cies	V_{CE}= 25V, V_{GE}=0V		2400		PF
Switching characteristics	tf	I_C = 50A, V_{GE}=+15V see fig.2			0.85	μs
Thermal resistance	Rthj-c	junction-case			0.625	℃/W

	DATE	NAME	APPROVED
DRAWN	Nov.-9-'90	T.Ogarashi	
CHECKED	Nov.-13-'90	S.Furukata	

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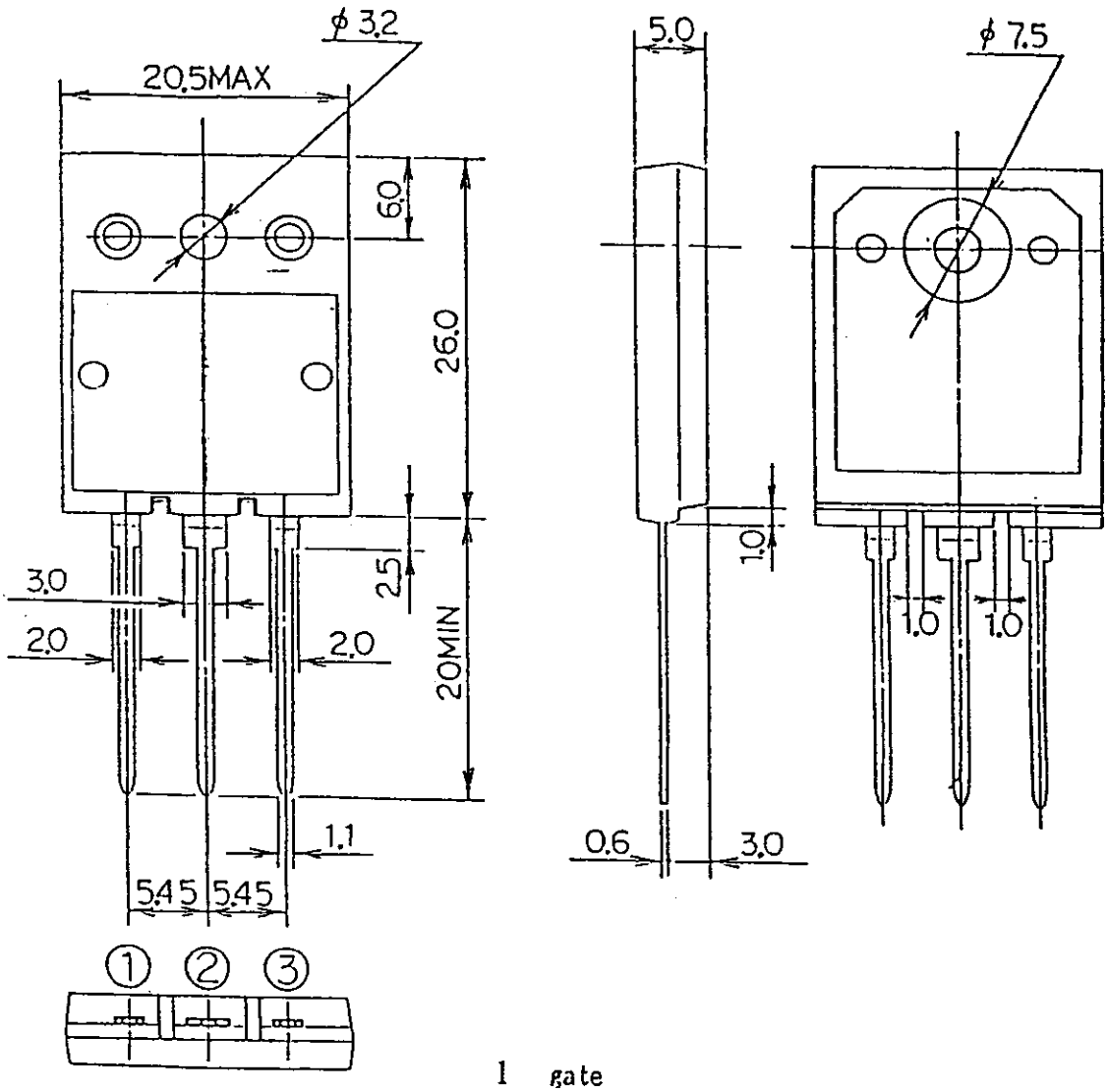
4. Out line



1 gate

2 Collector

3 Emitter

	DATE	NAME	APPROVED
DRAWN	- -		
CHECKED	- -		

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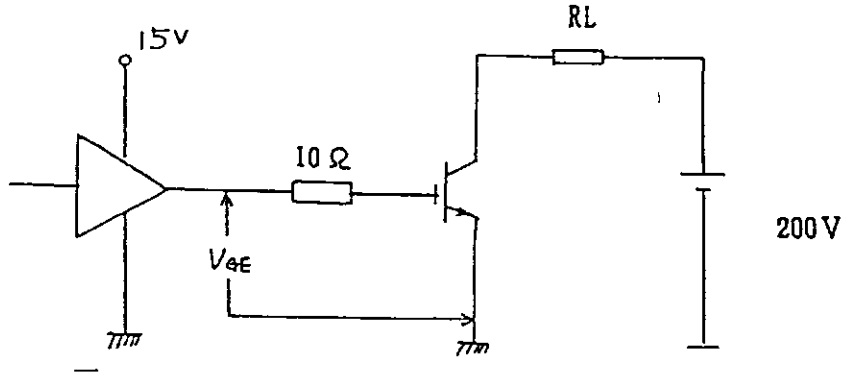
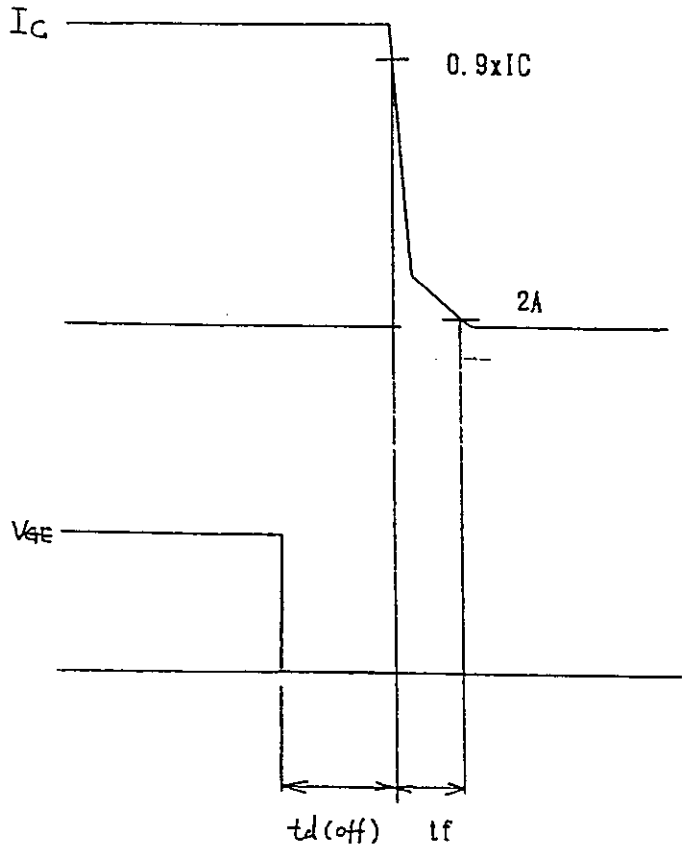
Fig.2 Test circuit of switching characteristics





	DATE	NAME	APPROVED
DRAWN	- -		
CHECKED	- -		
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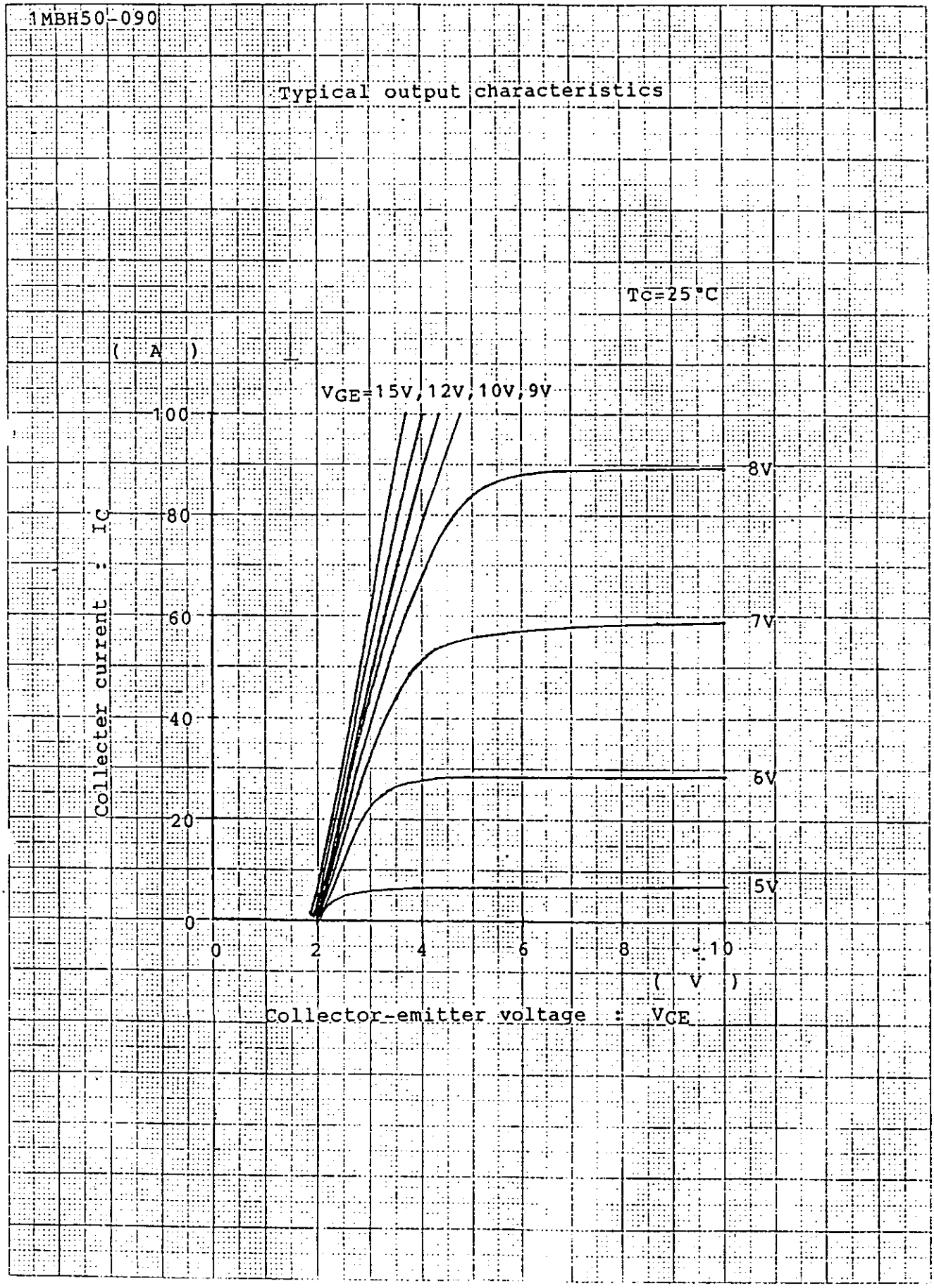
1MBH50-090

Typical output characteristics



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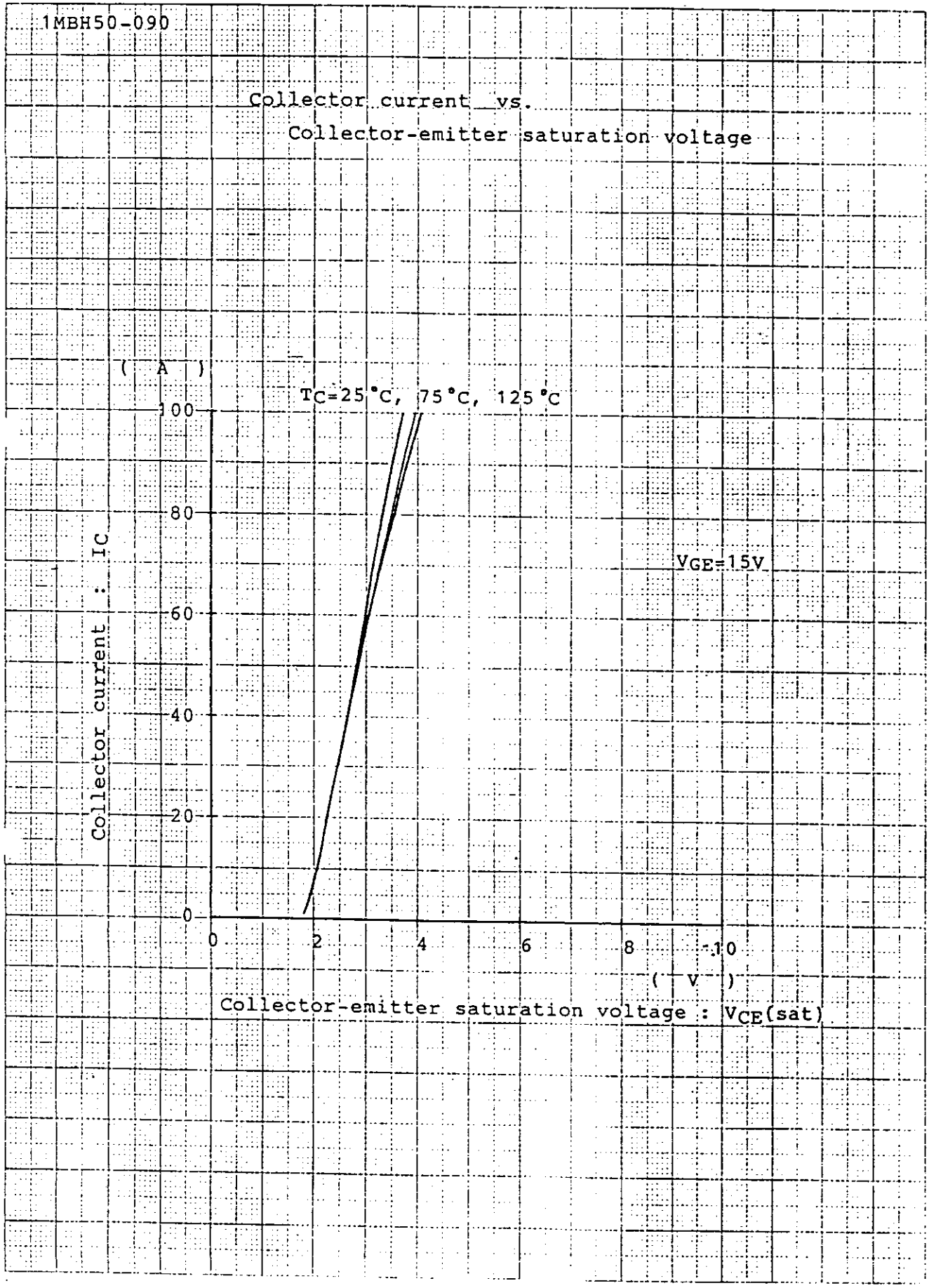
Collector current vs.
Collector-emitter saturation voltage



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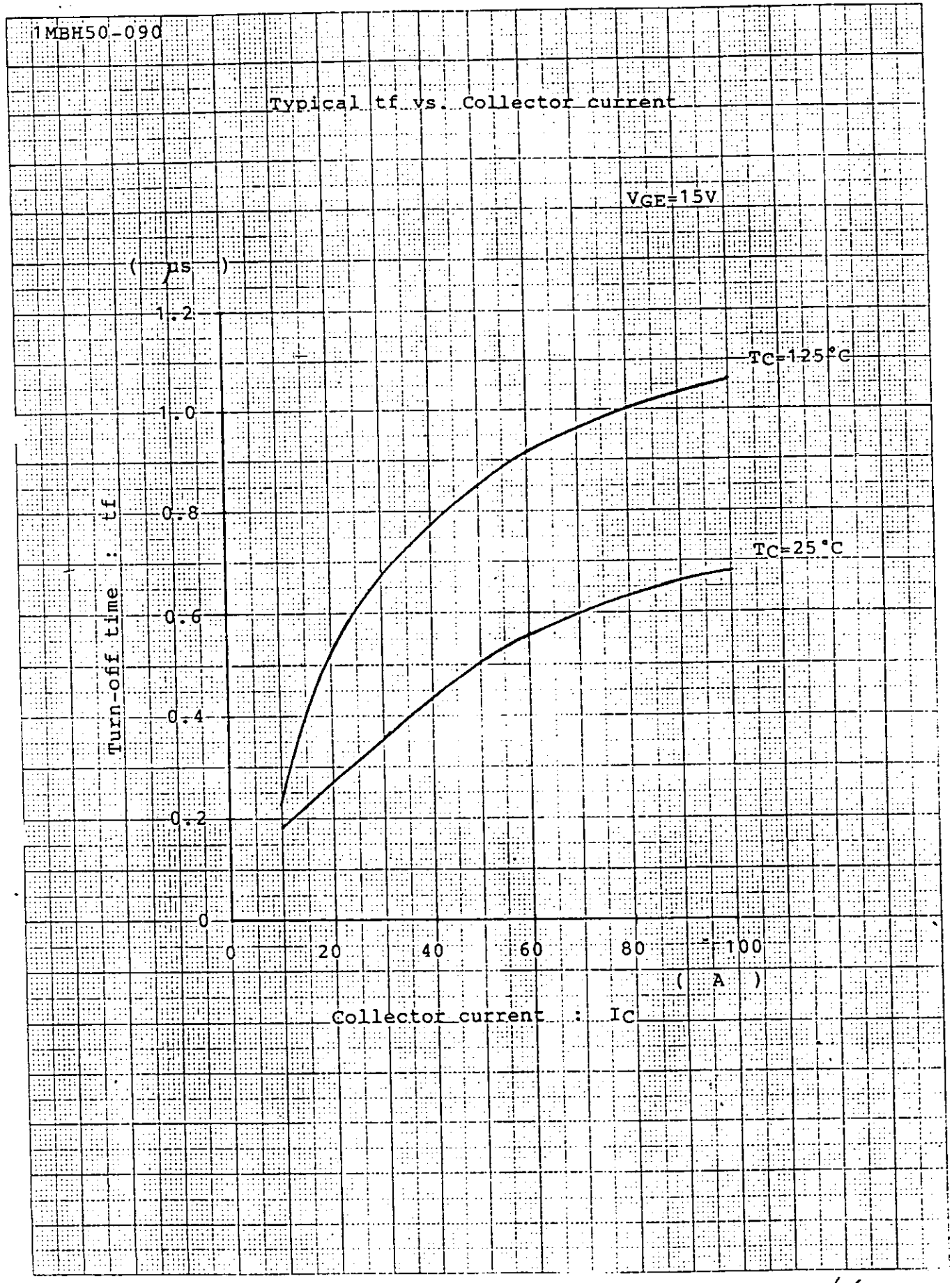
Typical tf vs. Collector current



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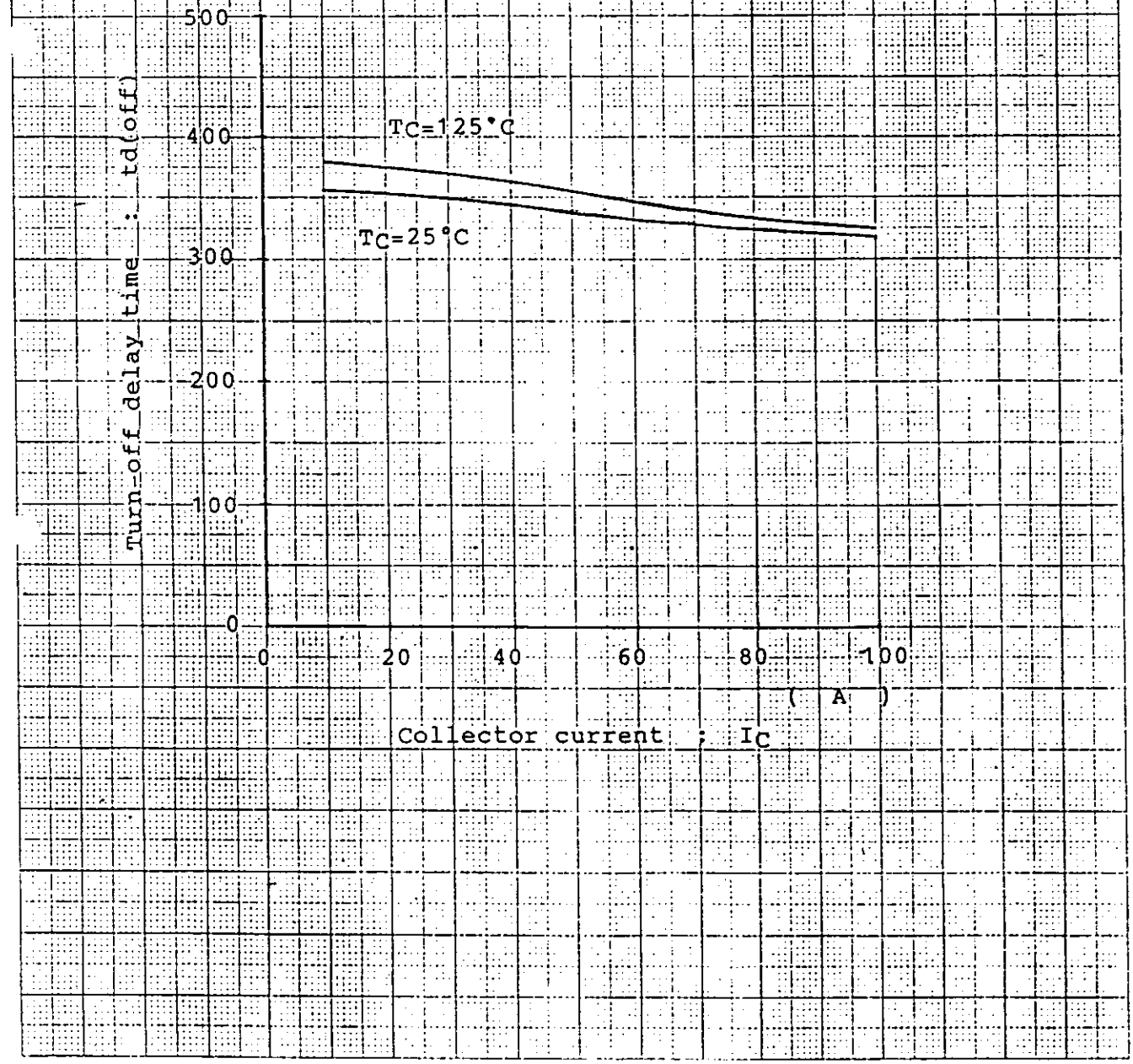
Typical Turn-off delaytime
vs. Collector current



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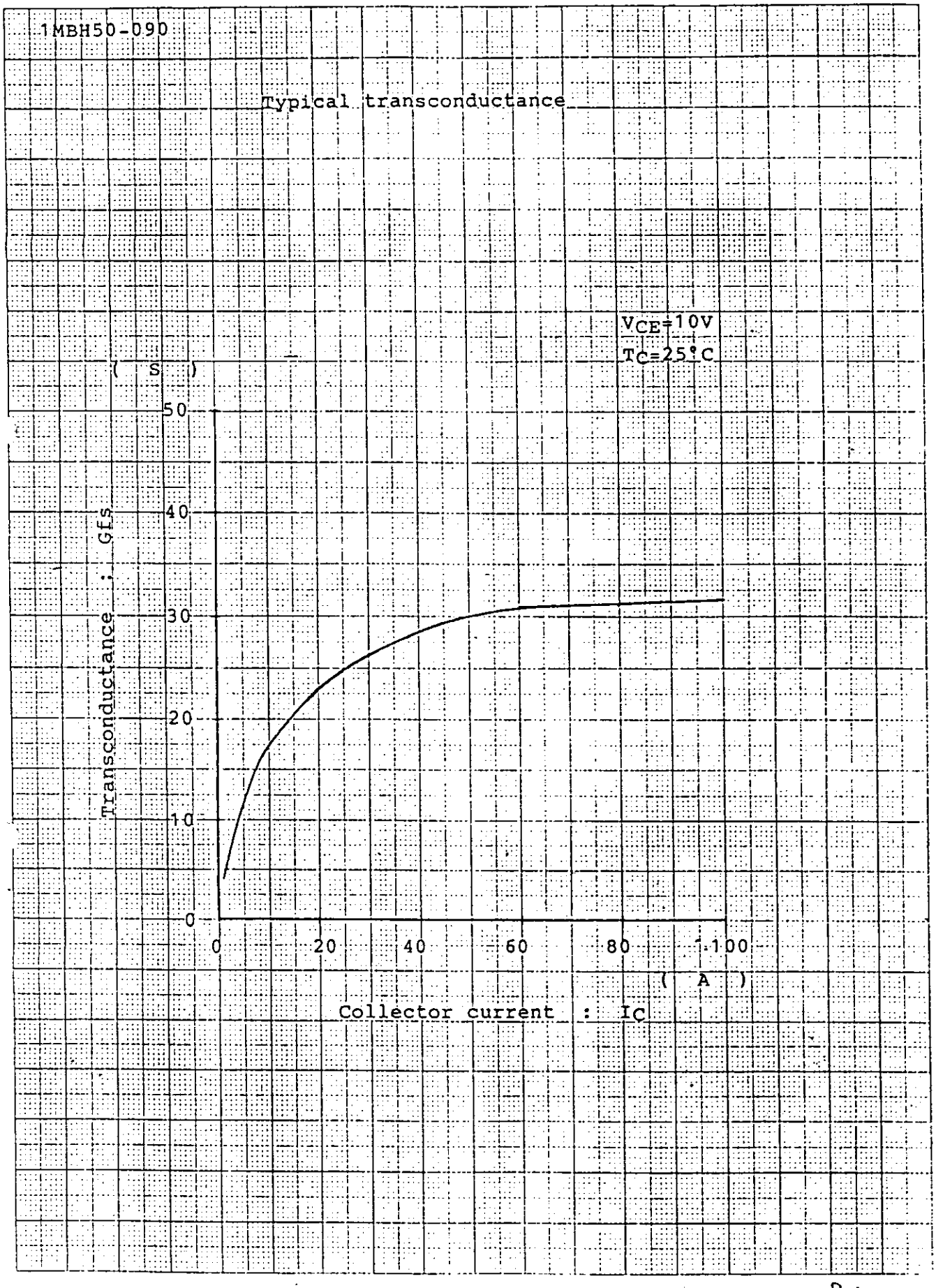
Typical transconductance



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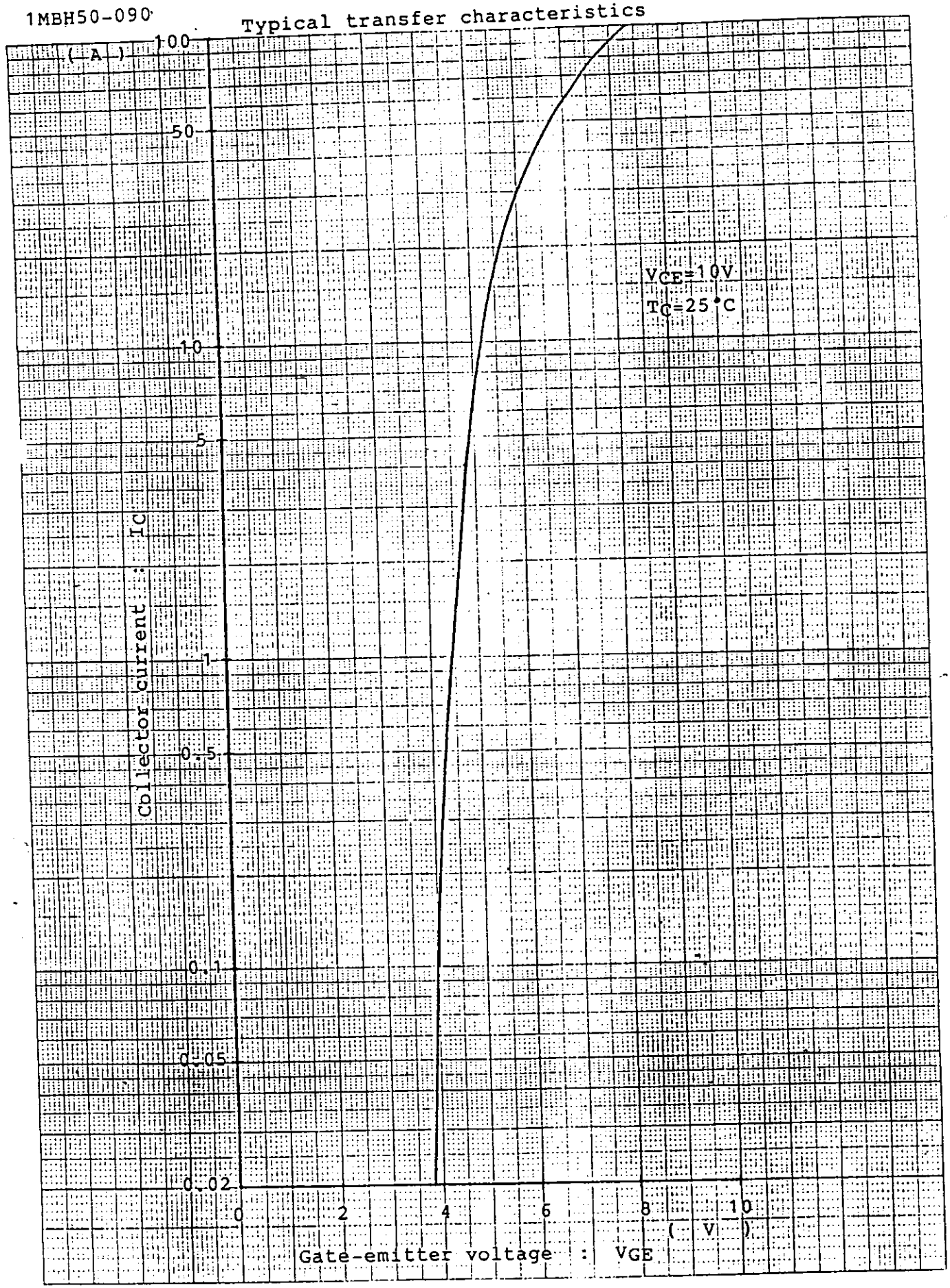
Typical transfer characteristics



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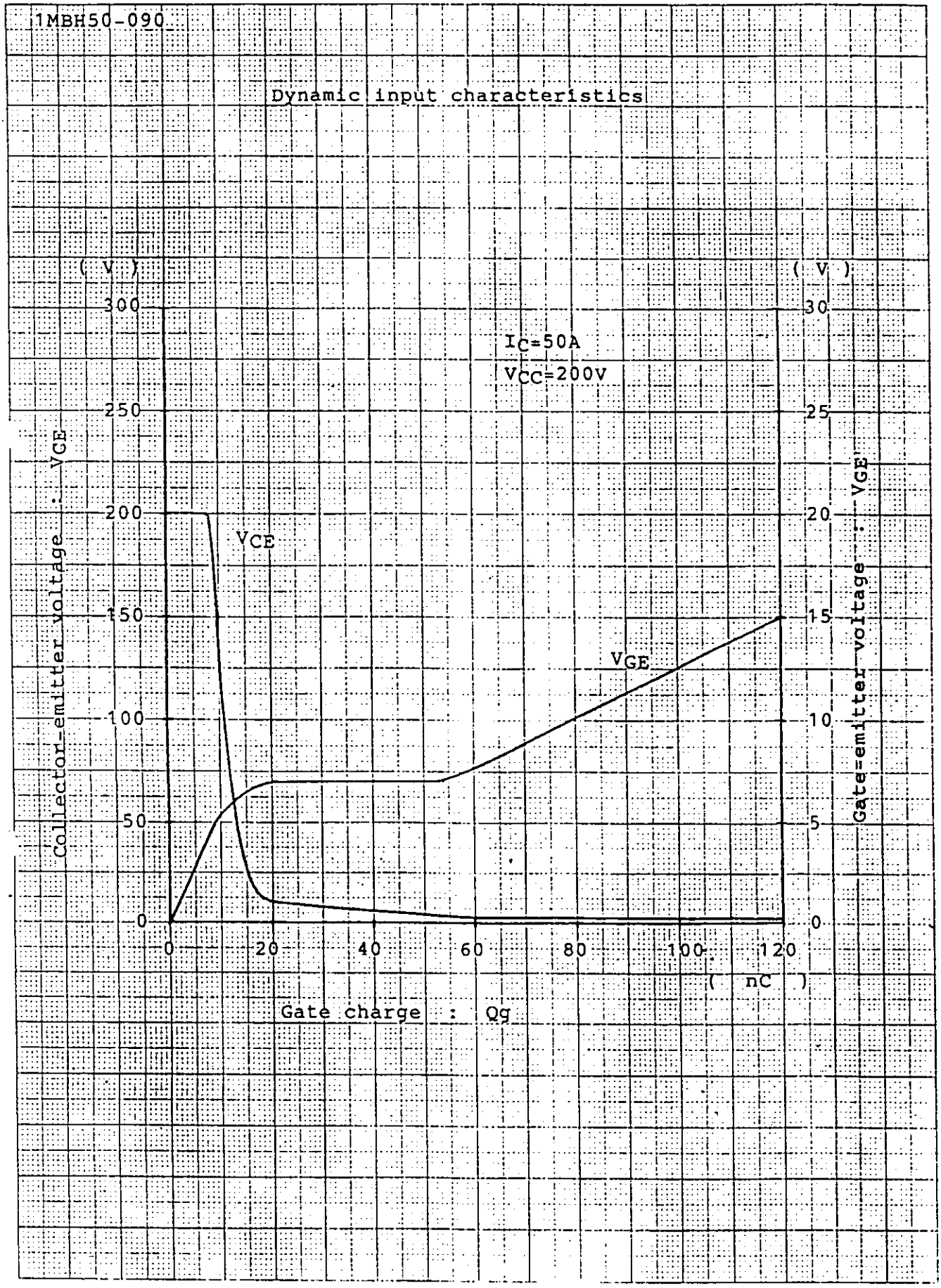
1MBH50-090
Dynamic input characteristics
(V)
300
250
200
150
100
50
0
Collector-emitter voltage : VCE
IC=50A
VCC=200V
VCE
VGE
(V)
30
25
20
15
10
5
0
Gate-emitter voltage : VGE
0
20
40
60
80
100
120
(nC)
Gate charge : Qg

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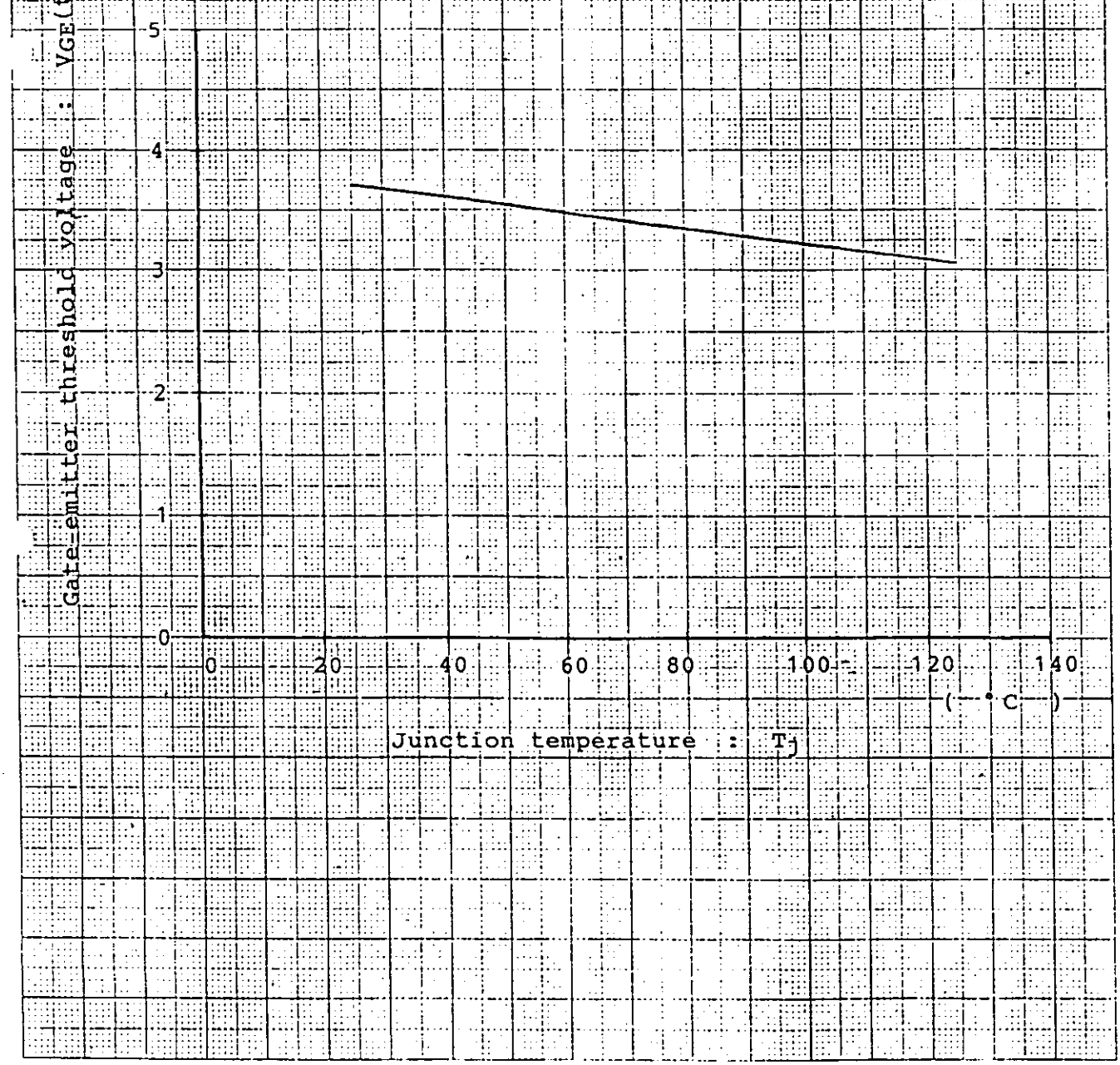
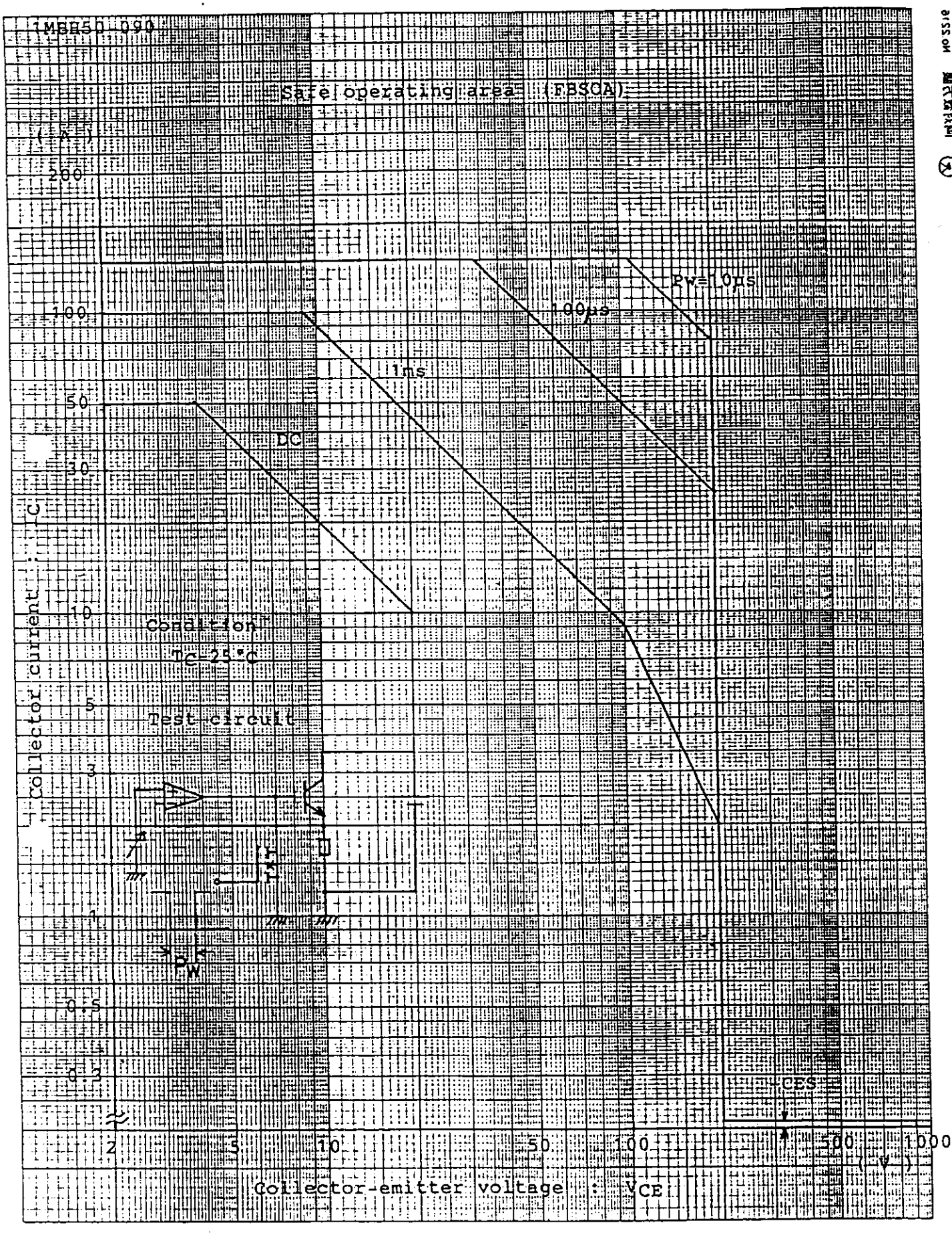
Typical threshold voltage
vs. Junction temperature

VCE=10V
IC=10mA





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