

1 MBH 60 - 100

Items		Symbols	Ratings	Units
Collector-Emitter Voltage		V_{CES}	1000	V
Gate-Emitter Voltage		V_{GES}	± 20	V
Collector Current	Continuous	I_C	60	A
	Pulse-50 μ s	I_C pulse	180	A
Max.Power Dissipation		P_C	260	W
Operating Temperature		T_j	+ 150	$^{\circ}$ C
Storage Temperature		T_{stg}	-40 ~ +150	$^{\circ}$ C

Items	Symbols	Characteristics			Conditions		Unit	
		min.	typ.	max.				
Zero gate voltage collector current	I_{CES}			100	$T_C = 25^\circ C$	$V_{GE} = 0V$ $V_{CE} = 900V$	μA	
					$T_C = 125^\circ C$			
Gate-Emitter leakage Current	I_{GES}			100	$V_{CE} = 0V$ $V_{GE} = \pm 20V$		nA	
Gate-Emitter Threshold Voltage	$V_{GE(LH)}$	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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Gate-Emitter	$V_{GE} (LH)$	2.0	6.0	$V_{CE} = 10V$ $I_C = 10mA$	V
Collector-Emitter	$V_{CE} (sat)$		3.2	$V_{GE} = 15V$ $I_C = 60A$	V

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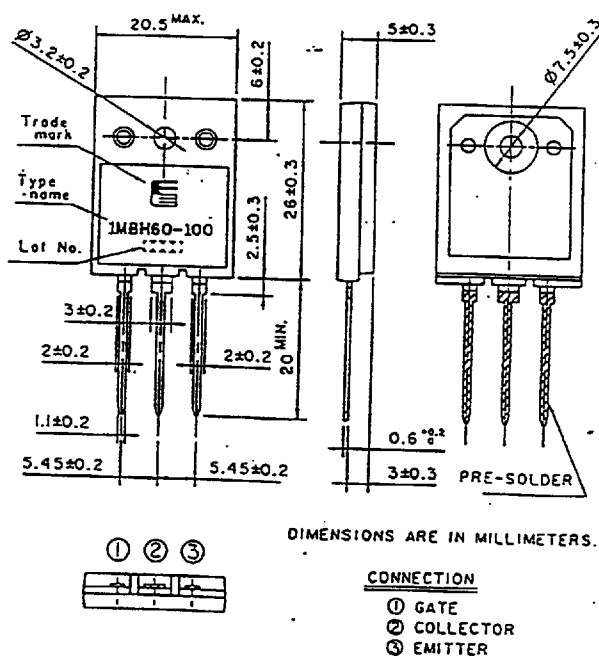
3. Dynamic ratings (at $T_c=25^\circ\text{C}$ unless otherwise specified)

Items	Symbols	Characteristics			Conditions	Unit
		min.	typ.	max.		
Input capacitance	Cies		3000		$V_{GE} = 0V$ $V_{CE} = 25V$ $f = 1\text{MHz}$	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	$R_{th(j-c)}$			0.481		$^\circ\text{C/W}$

5. Outline Drawing



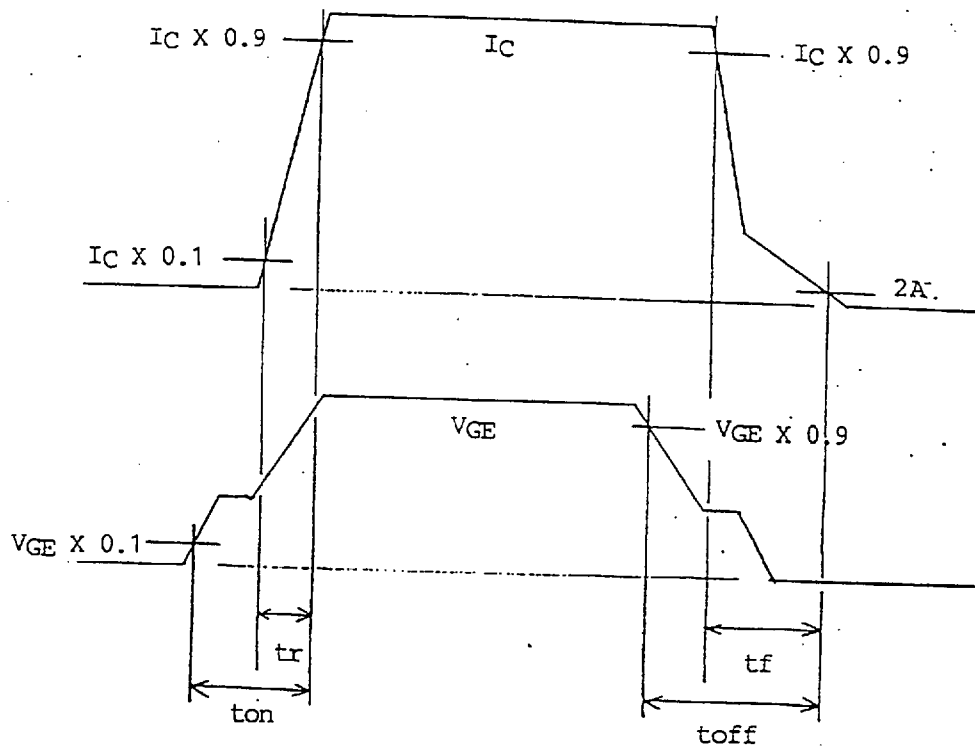
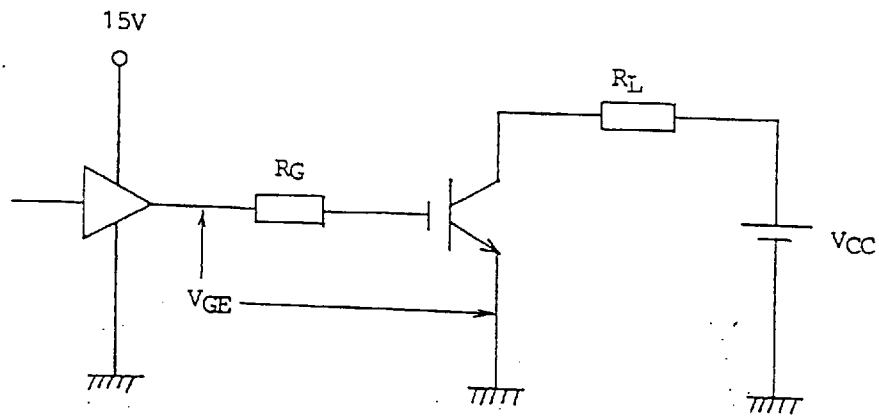
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Fig.1 Test circuit of switching characteristics



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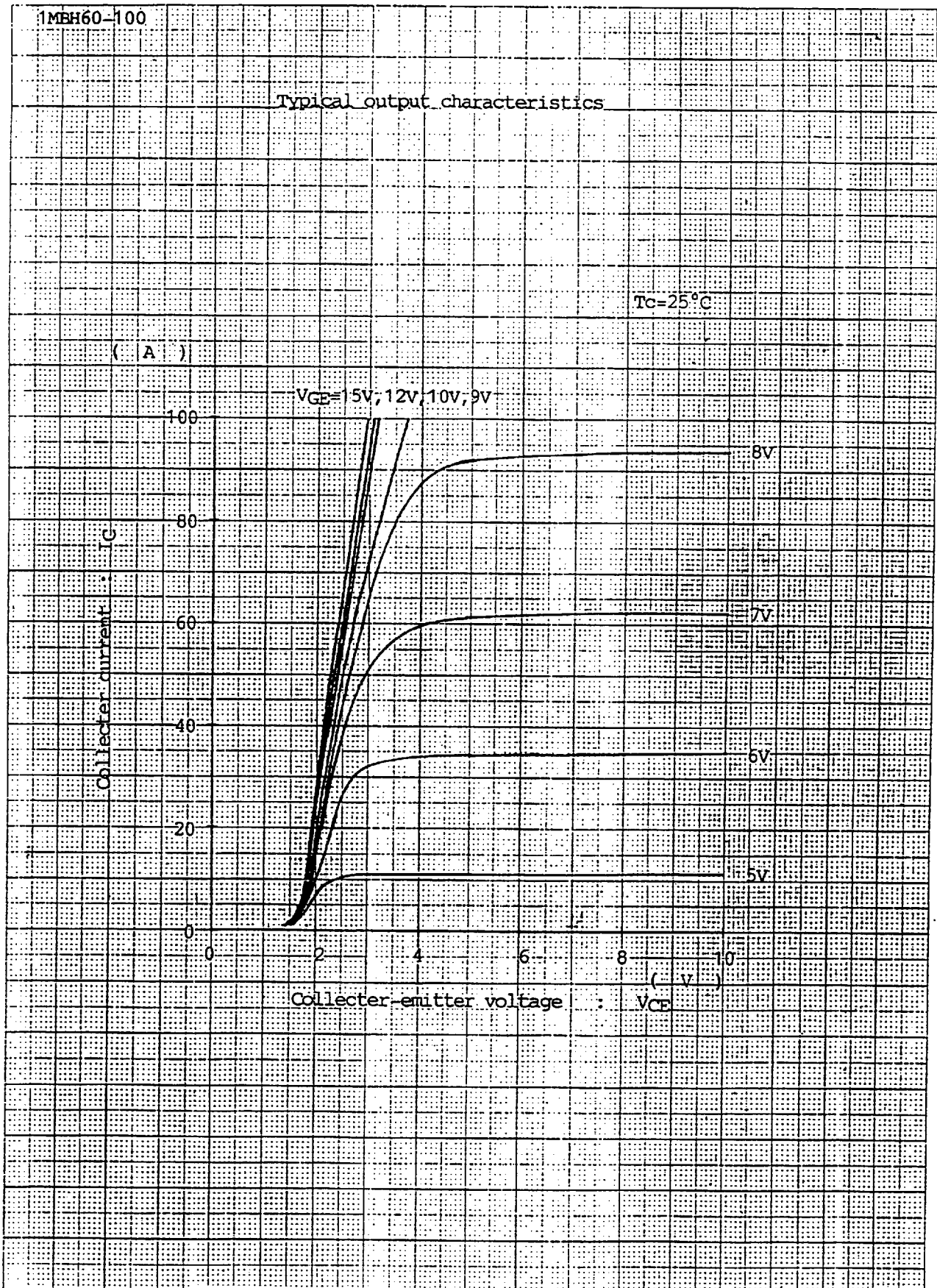
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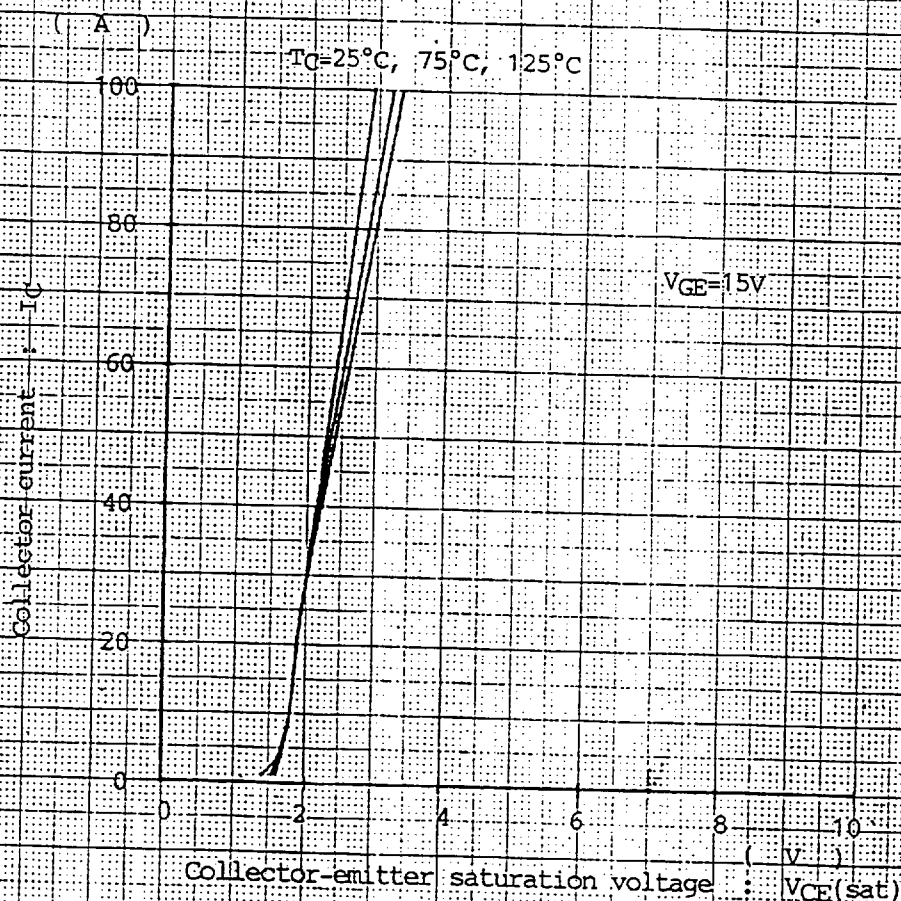
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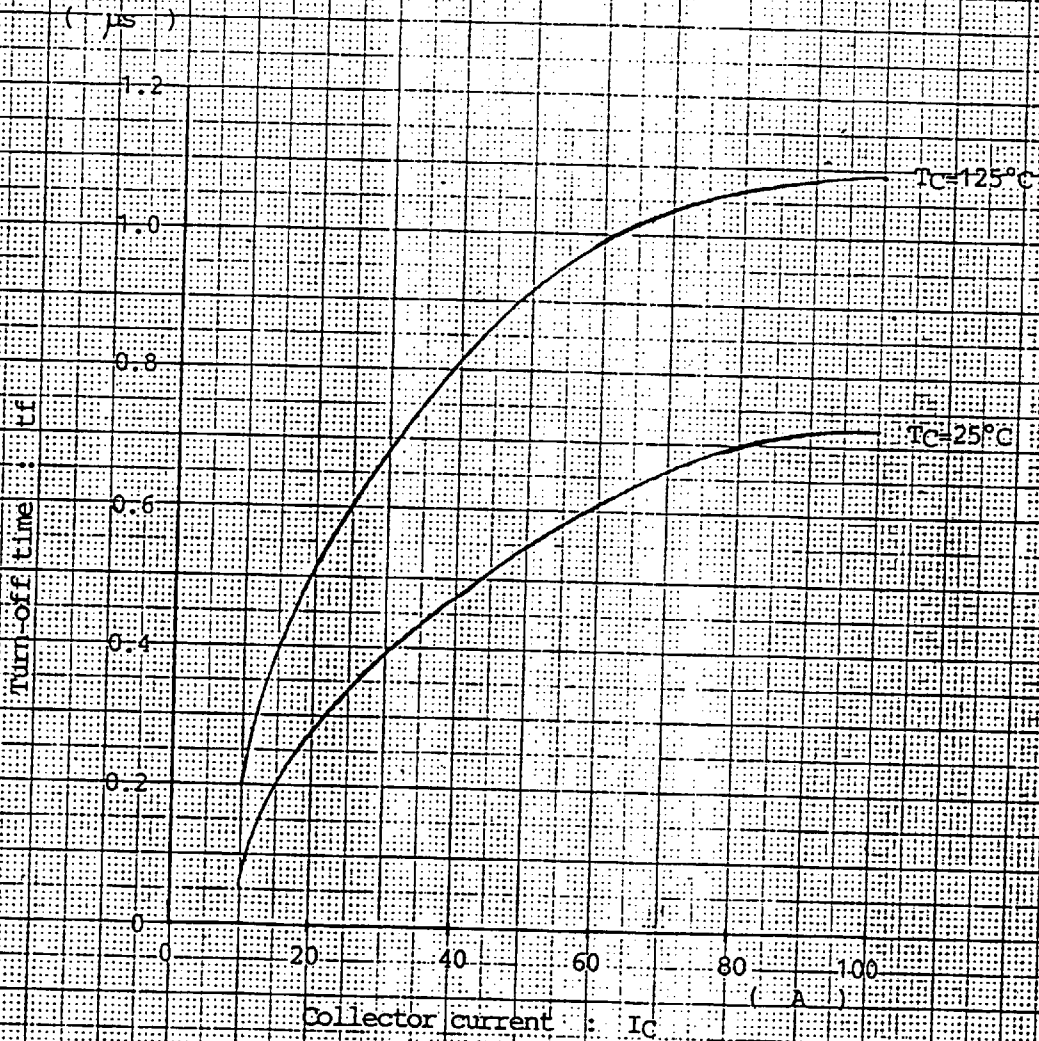
Collector current vs.
Collector-emitter saturation voltage



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Typical t_f vs. Collector current

$V_{GE}=15V$



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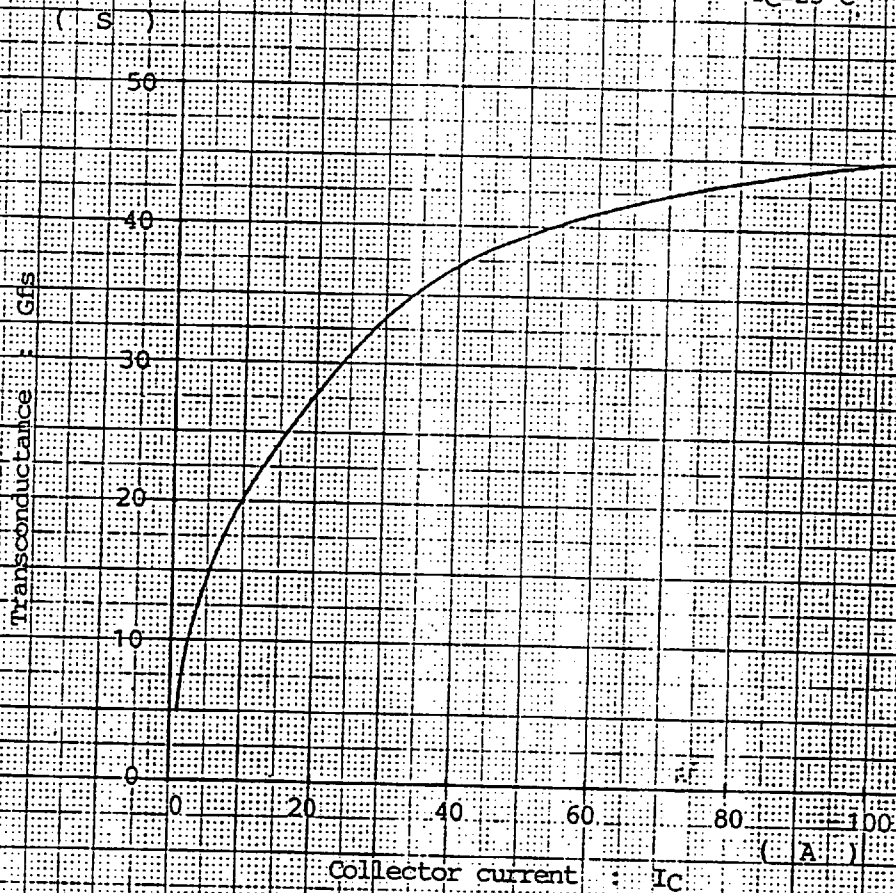
Typical turn-off delaytime
vs. Collector current

$V_{GE}=15V$



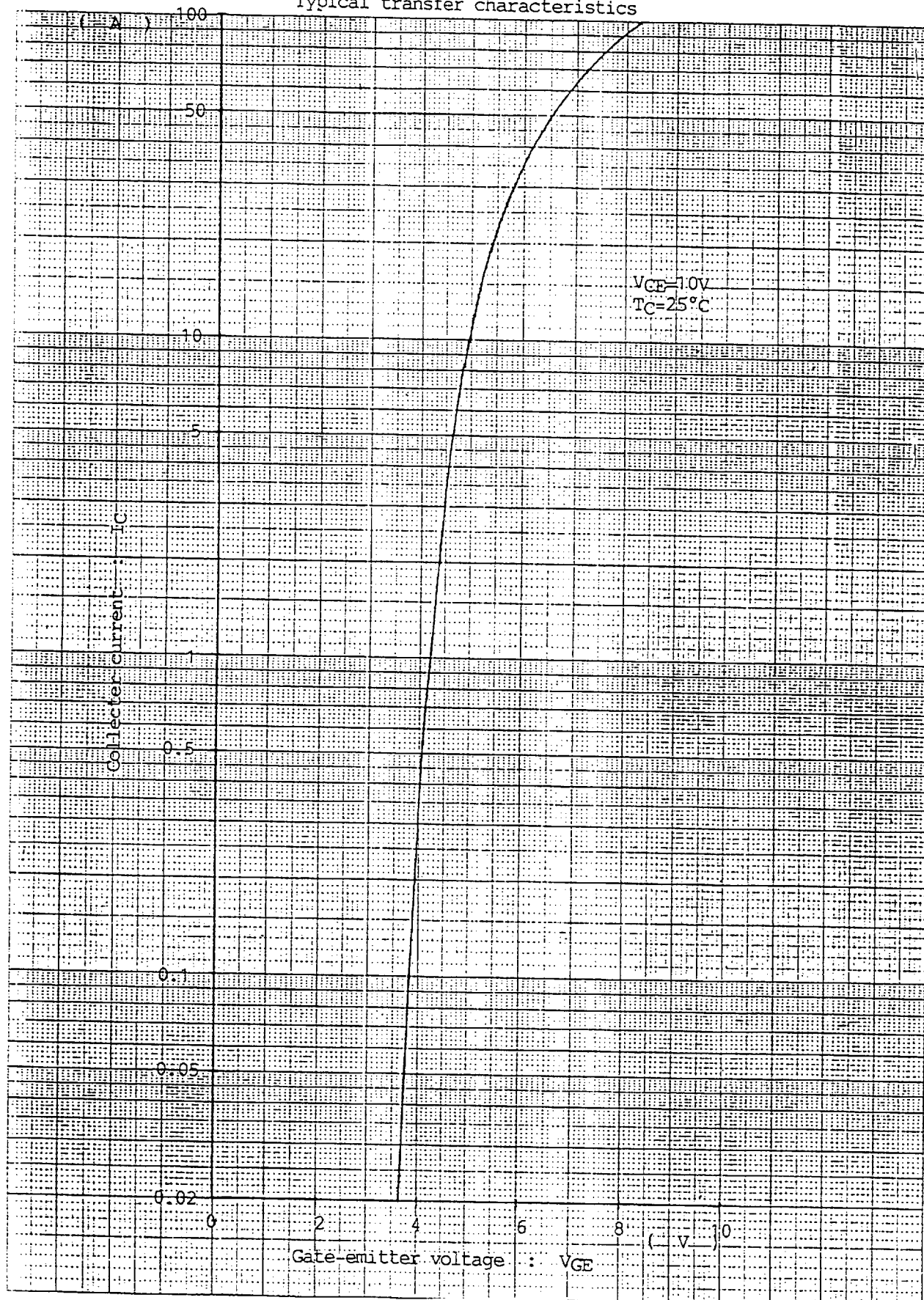
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Typical transconductance

 $V_{CE}=10V$
 $T_C=25^{\circ}C$ 

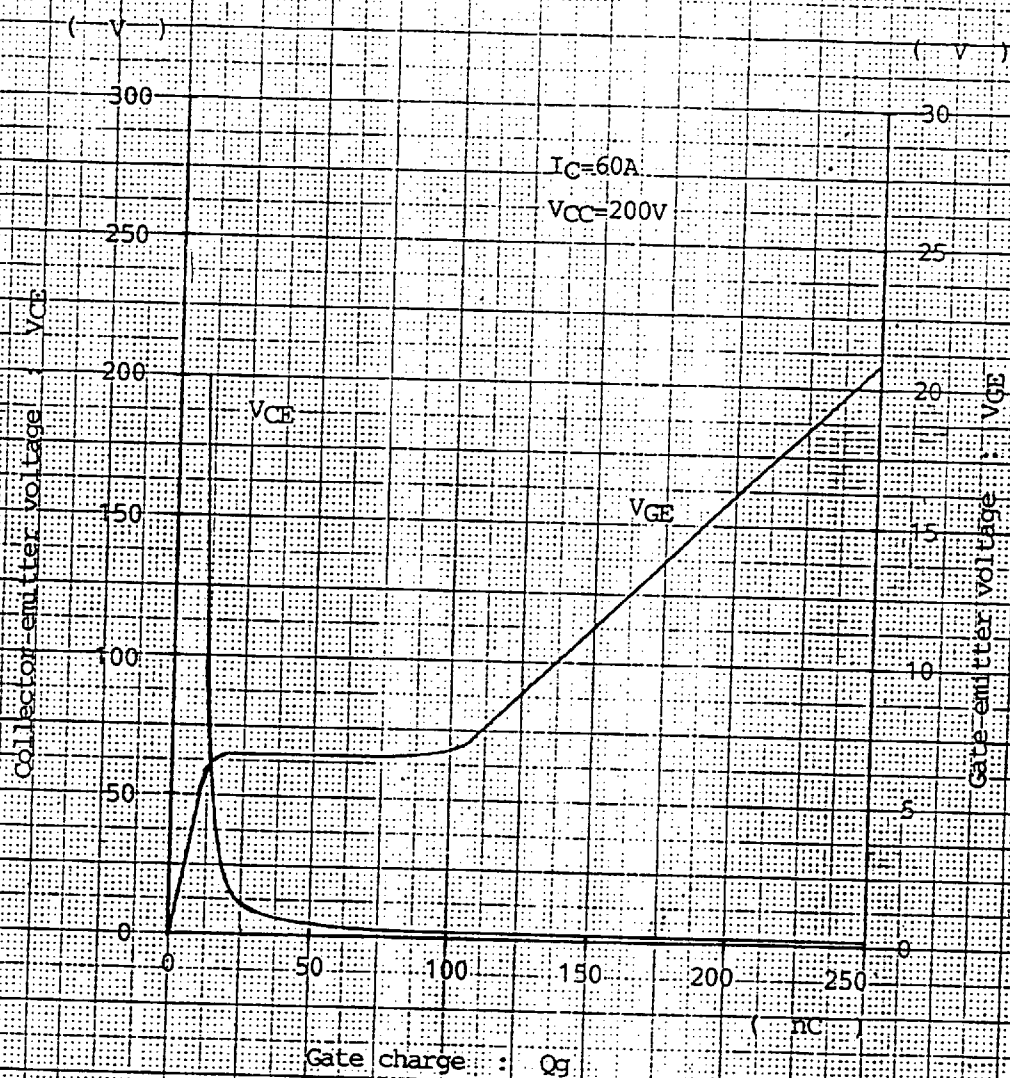
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Typical transfer characteristics



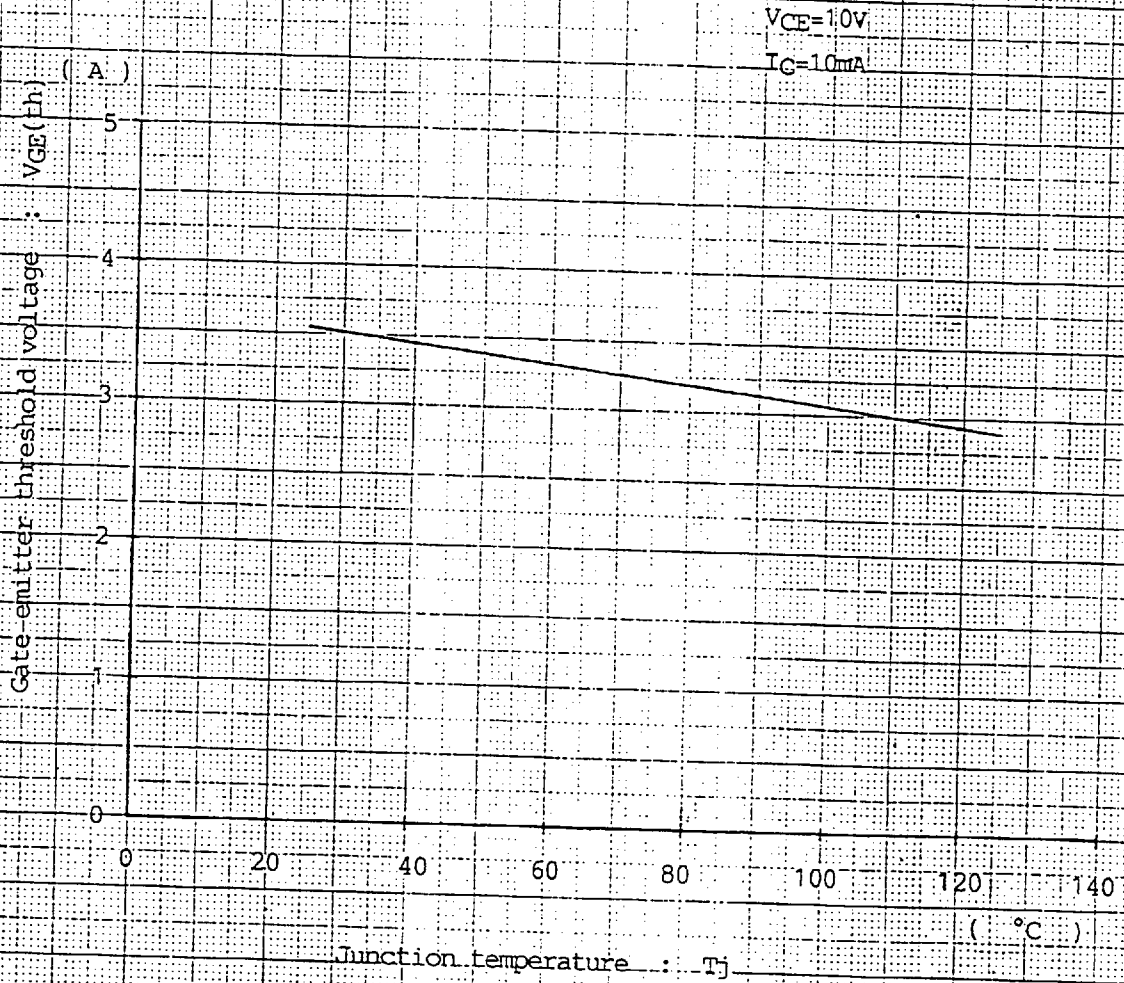
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Dynamic input characteristics



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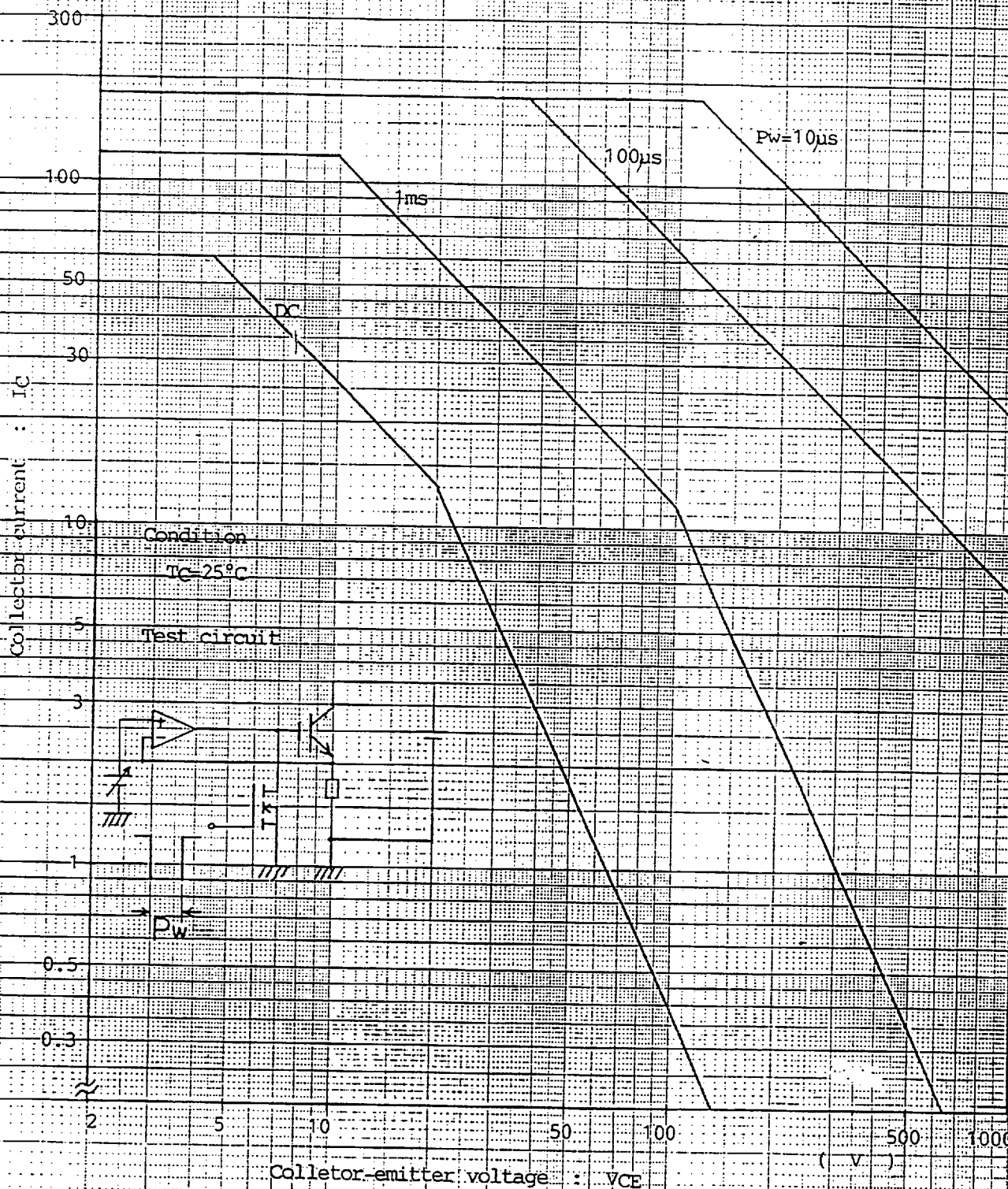
Typical threshold voltage
vs. Junction temperature



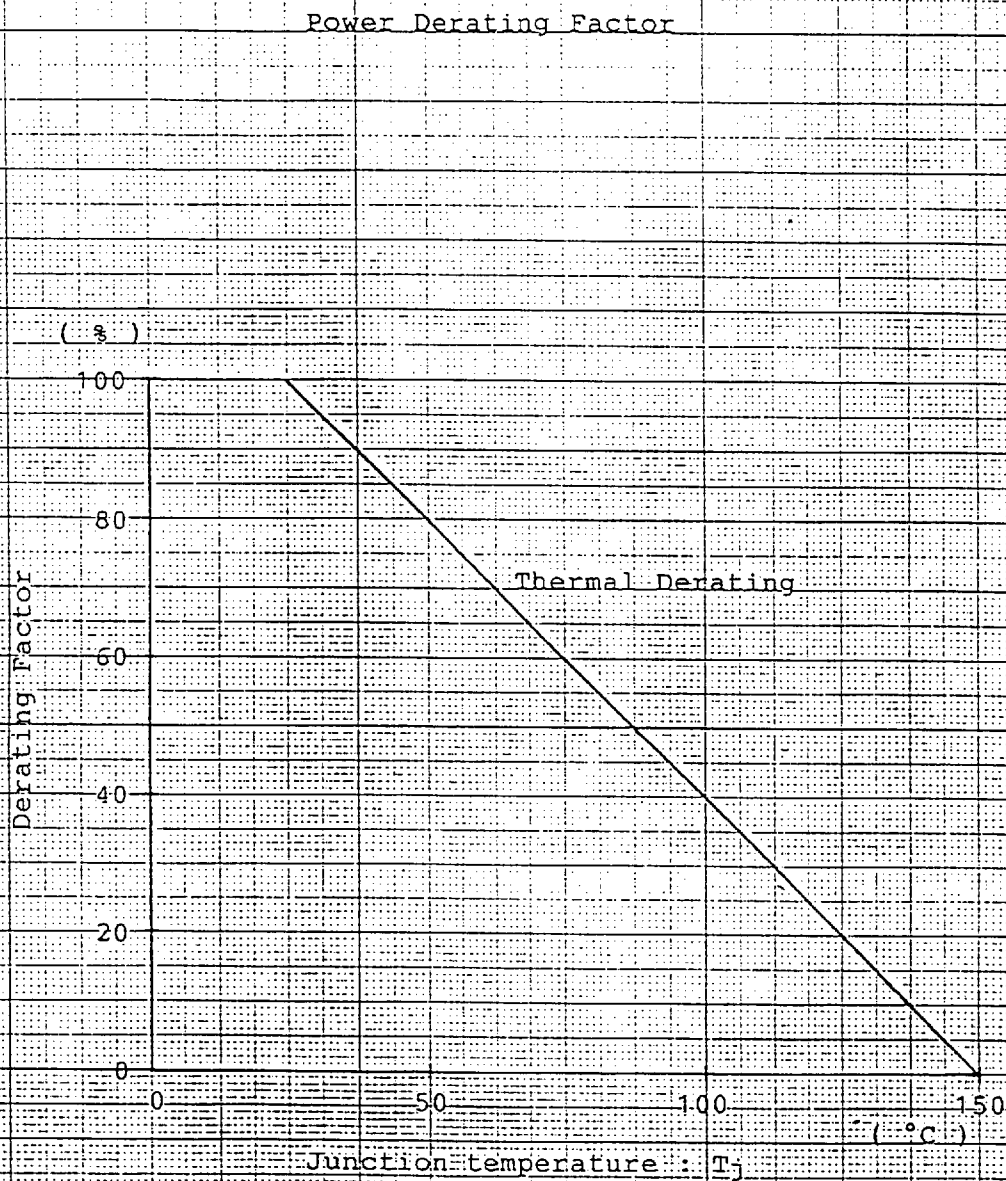
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Safe operating area (RBSOA)

(-A-)



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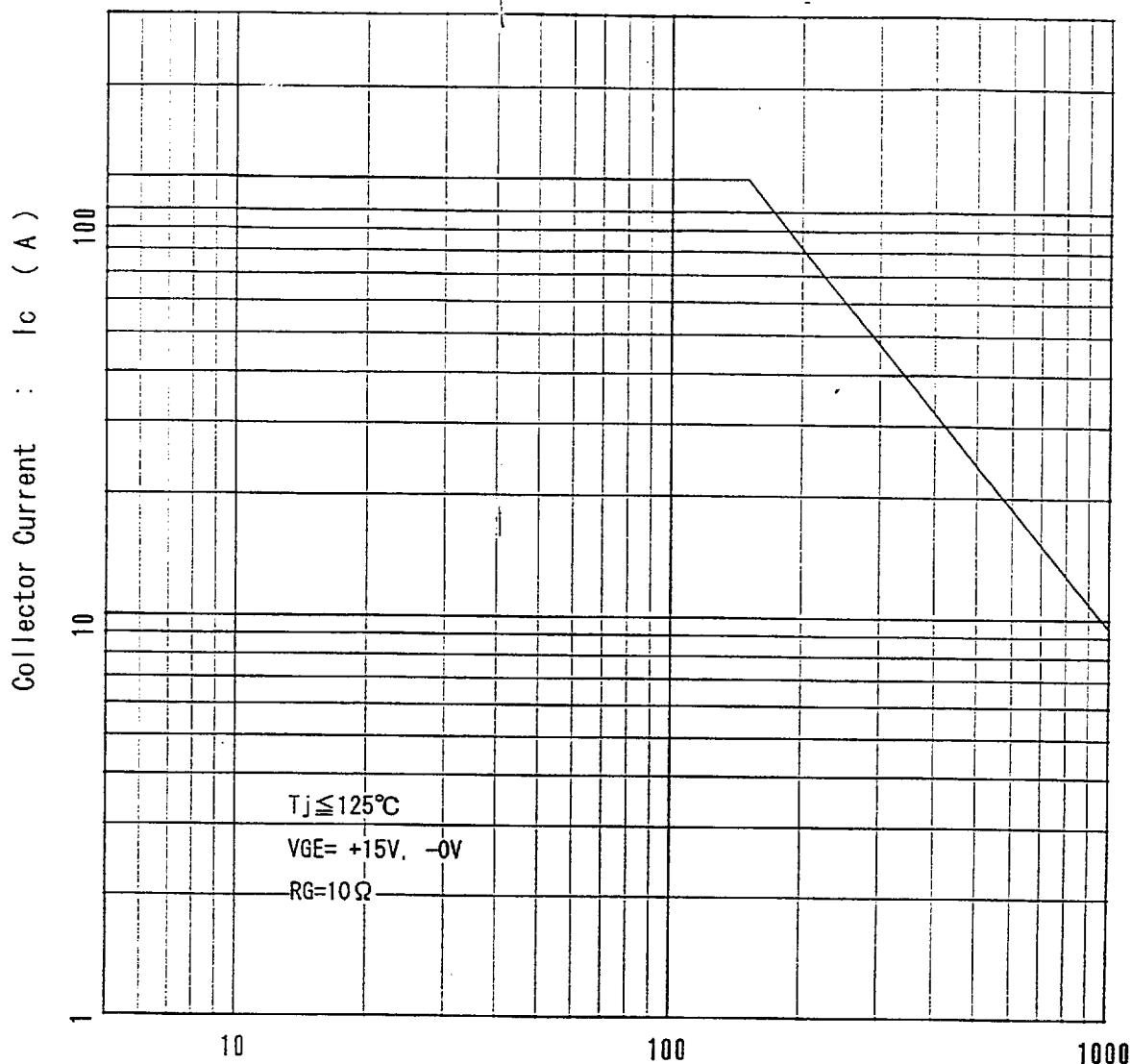
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Reverse Biased Safe Operating Area (RBSOA)



Collector-Emitter Voltage : V_{CE} (V)

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