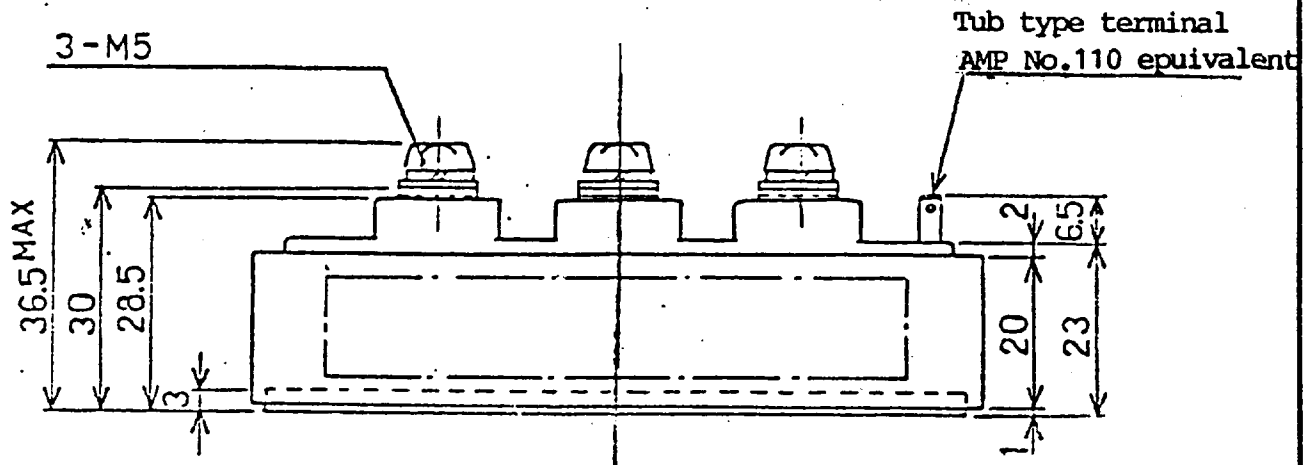
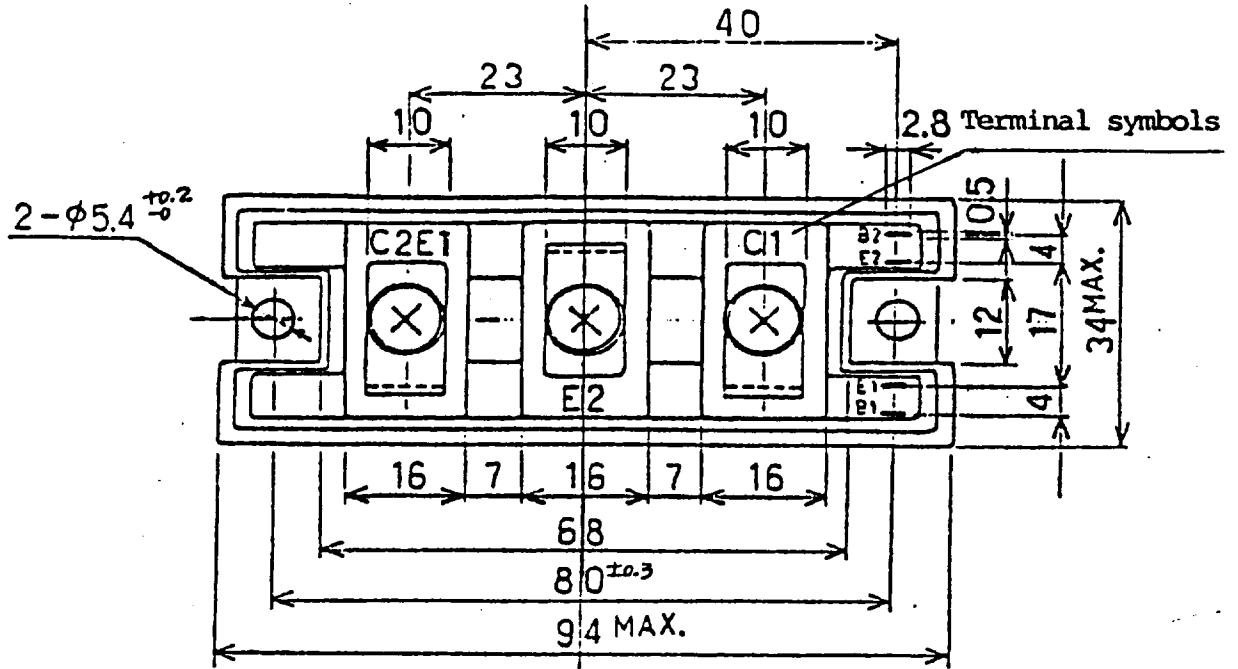


Ratings and Characteristics of Fuji Power Transistor

2 D I 3 0 A - 1 4 0

1. Outline Drawing

Unit : mm



NOTE : Isolation Voltage AC 2500V 1 minuts

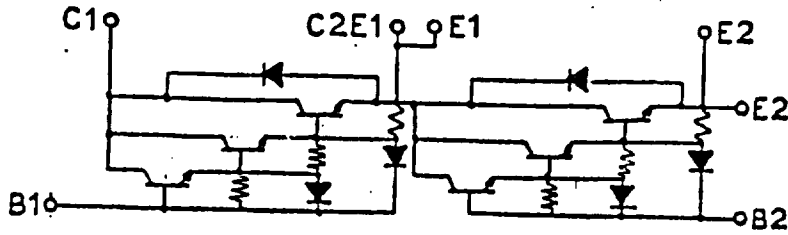
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2) 2D30A curvc changed 9/27/78 1000V Iss 9 B.C. Miki

DATE			NAME		APPROVED		Fuji Electric Co., Ltd.	
DRAWN July-23-'85			S. Kobayashi					
CHECKED July-23-'85			<i>H. Miki</i>					
REVISIONS							DWG. NO. MT5M5689 //14	

MA4LE

2. Equivalent Circuit



3. Absolute Maximum Ratings (TC=25°C)

Item	Symbol	Maximum Ratings	Unit
Collector-Base Voltage	VCBO	1 4 0 0	V
Collector-Emitter Voltage	VCEO	1 4 0 0	V
Collector-Base Voltage	VEBO	1 0	V
Collector Current	DC	IC	3 0
	1mS	ICP	6 0
	DC	-IC	3 0
Base Current	DC	IB	3
	1mS	IBP	6
Collector Power Dissipation	PC	3 0 0	W
		6 0 0	W
Operating Temperature	Tj	+ 1 5 0	°C
Storage Temperature	Tstg	- 4 0 ~ + 1 2 5	°C
Screw Torque	Mounting	3 5	kg·cm
	Terminals	3 5	kg·cm
Isolation Voltage	A C	2 5 0 0	V

*1 : Recommendable Value ; M5 : 25 ~ 35 kg·cm

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4. Electrical Characteristics (Tc=25°C)

Characteristics		Symbol	Conditions	MIN	MAX	Unit
Collector-Base Voltage		VCBO	ICBO=10mA	1400		V
Collector-Emitter Voltage		VCBO	IC=10mA	1400		V
Collector-Emitter Voltage		VCEX (SUS)	IC=30A -IB=3A	1200		V
			IC=60A -IB=3A	1000		V
Emitter-Base Breakdown Voltage		VEBO	IEBO=100mA	10		V
Collector Cutoff Current		ICBO	VCBO=1400V		1.0	mA
Emitter Cutoff Current		IEBO	VEBO=10V		100	
DC Current Gain		hFE	IC=30A VCE=5V	70		
Collector-Emitter Saturation Voltage		VCE (sat)	IC=30A		2.5	V
Base-Emitter Saturation Voltage		VBE (sat)	IB=1A		3.5	
Switching Time	Resistance Load 20Ω	ton	IC=30A IB1 =+1A IB2 =-3A PW=50μs		3.0	μs
	Inductance Load	tstg			15.0	
		tf			3.0	
Emitter-Collector Voltage		VECO	-IECO =30A		2.0	V
Reverse Recovery Time		trr			0.6	μs

5. Thermal Characteristics

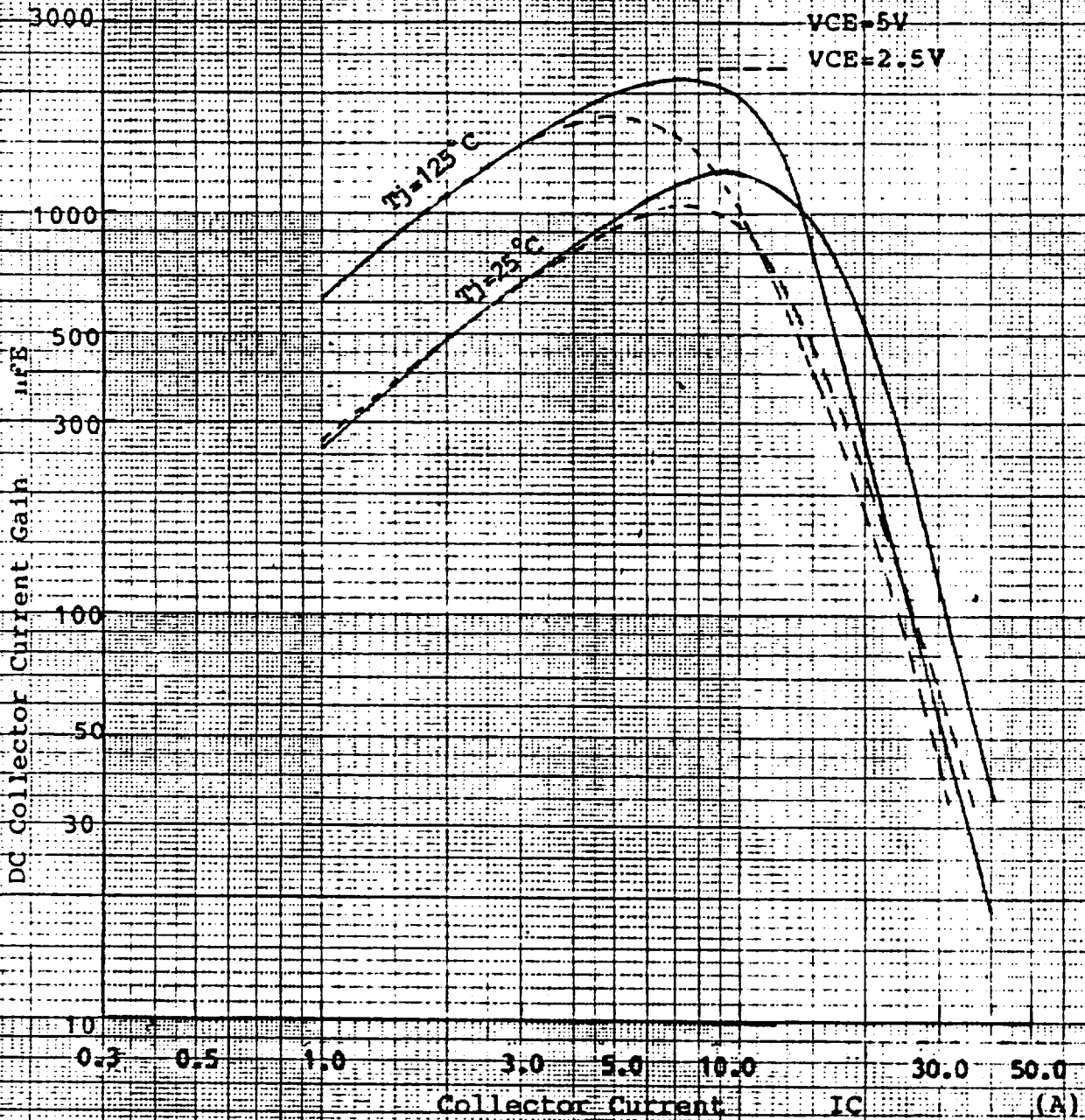
Characteristics		Symbol	Conditions	MIN	MAX	Unit
Thermal Resistance		Rth(j-c)	Transistor		0.40	°C/W
			Diode		1.20	°C/W
Contact Thermal Resistance		Rth(c-f)	With Thermal Compound *2		0.06 TYP	°C/W

*2 Torque Value of screw for mounting on cooling fin : 35 kg·cm

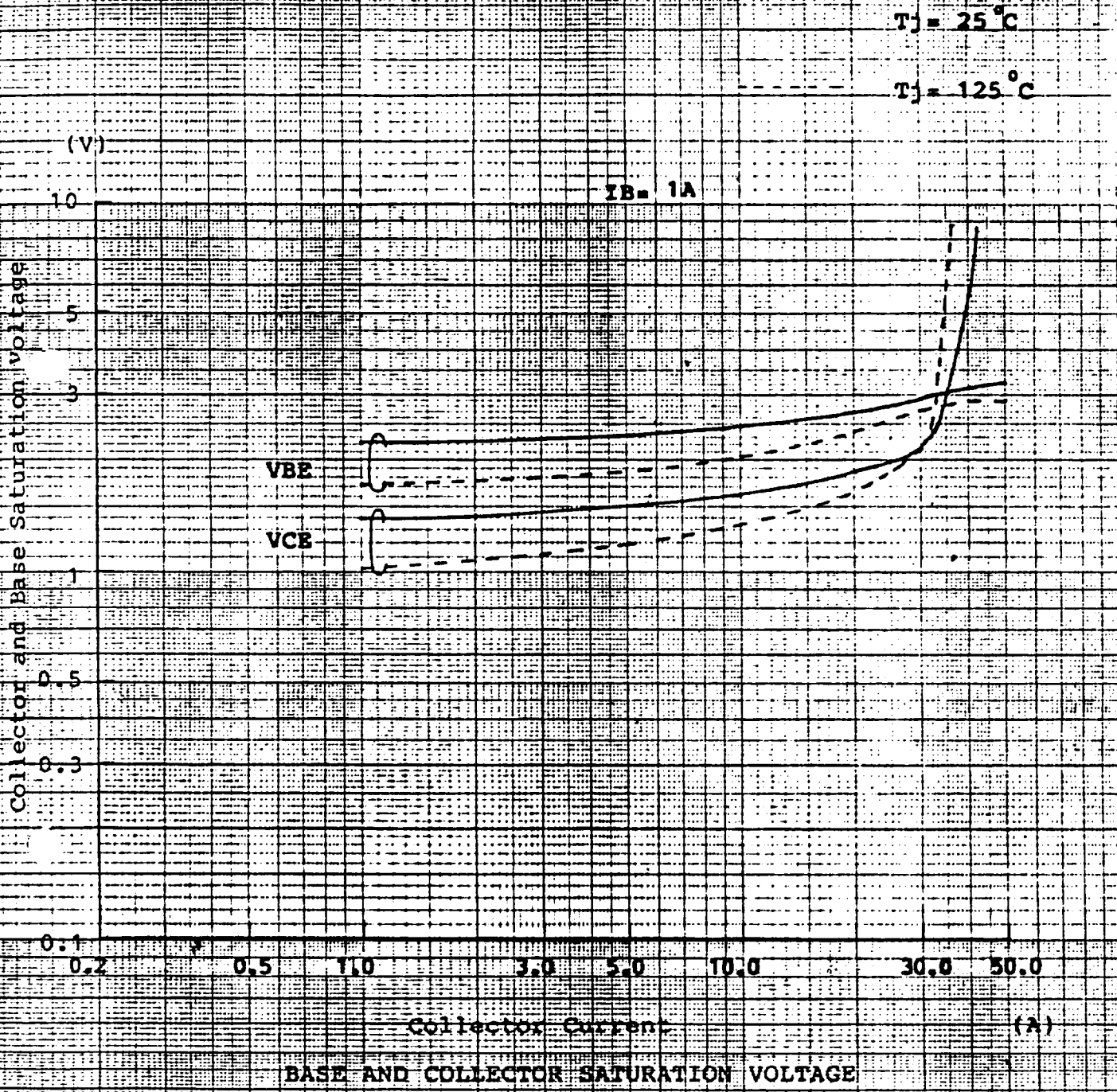
Thermal compound shall be applied between case and cooling fin.

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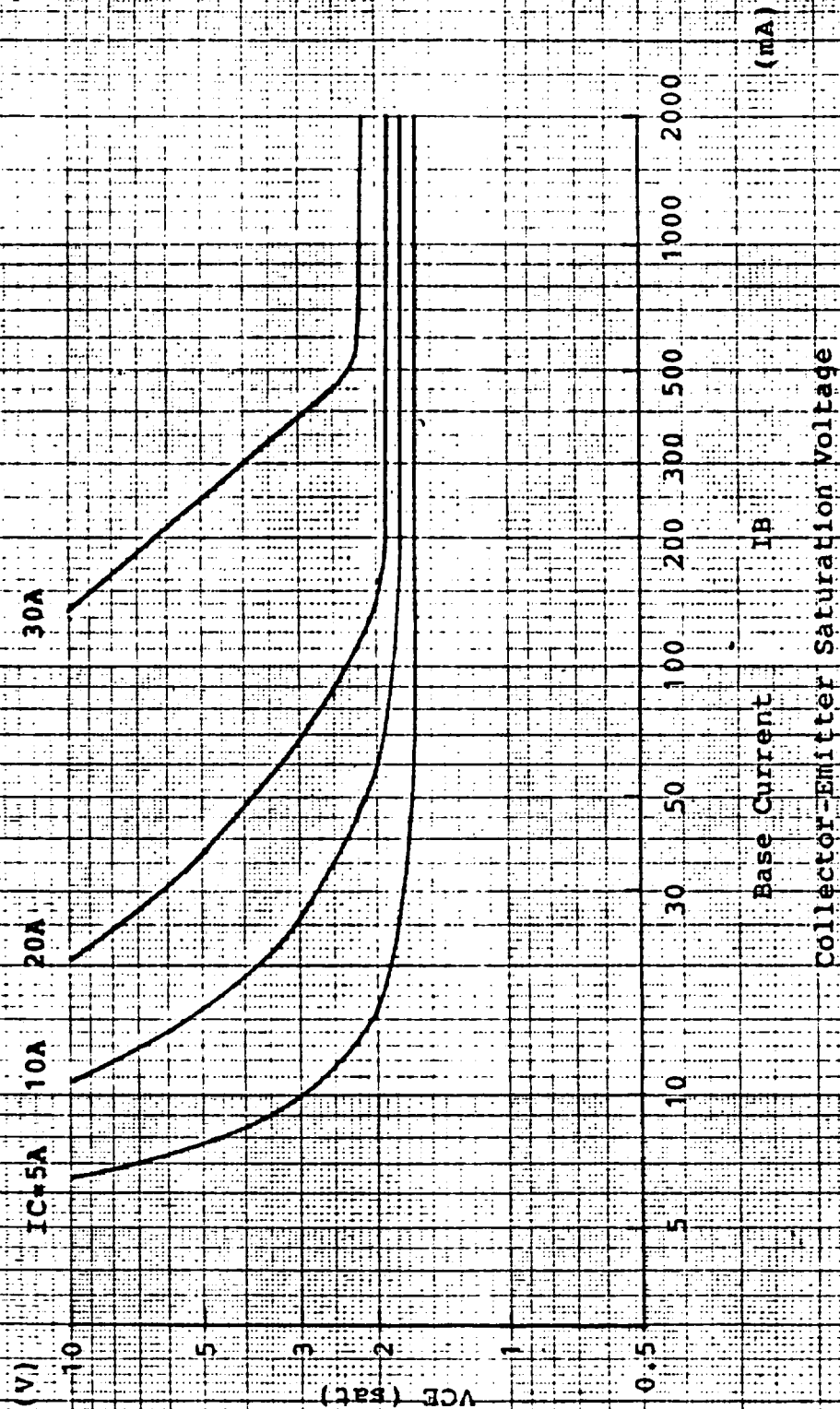
DC COLLECTOR CURRENT GAIN CHARACTERISTICS



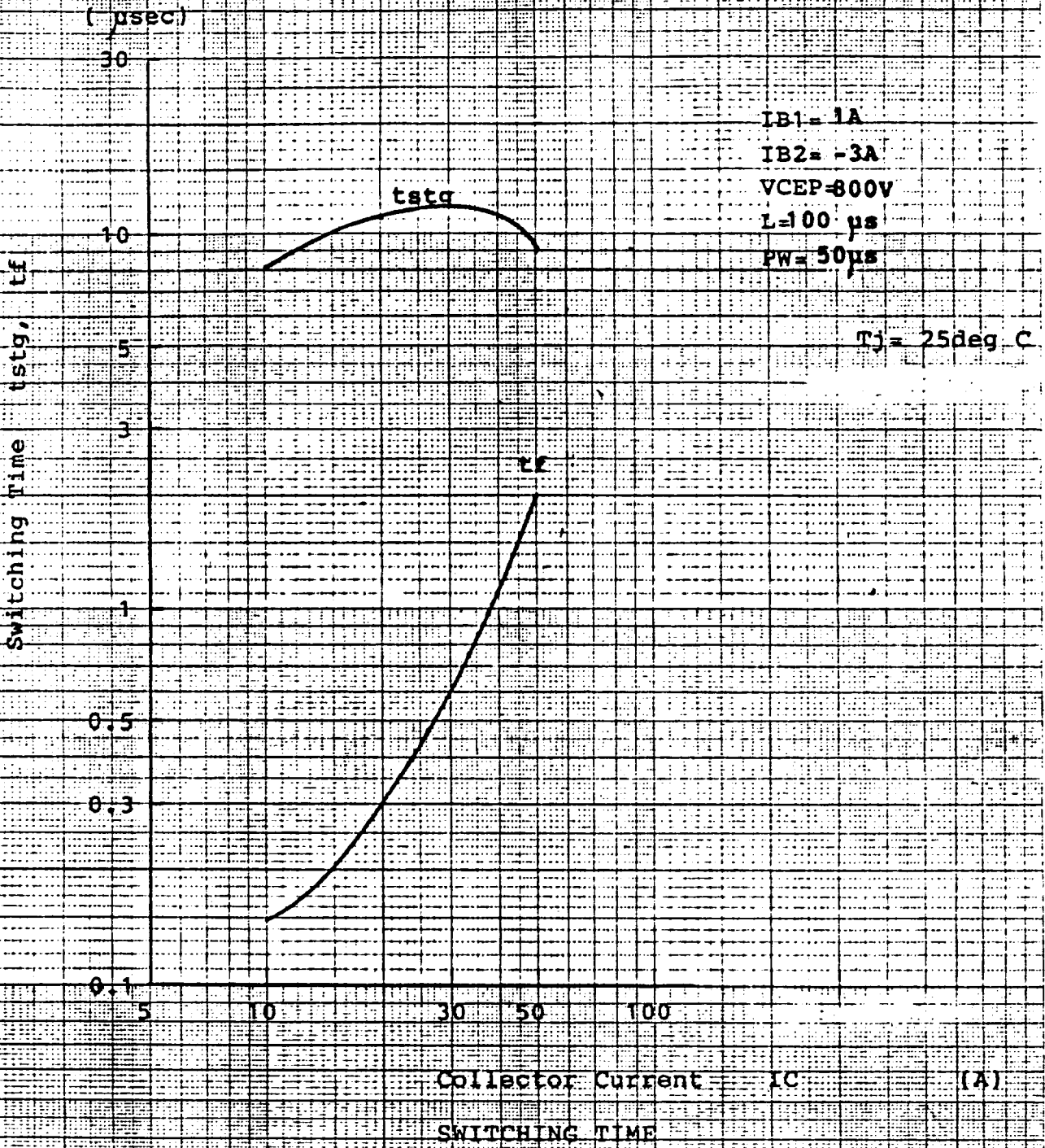
MT5M5689 a ⁵/₁₄

ZD130A-140

$T_j = 25 \text{ degC}$



MT5M5689 a 6/14



MT5M5689a 7/14

312 VI 10-7 (5.7mm) (3.4mm)

(psec)

100

50

30

10

5

3

2

1

Turn-Off Time

IC = 30A

IB1 = 1A

VCEP = 800V

L = 100μH

Pw = 50ps

Tj = 25 degC

-1

-3

-5

-10

-20

Reverse Base Current

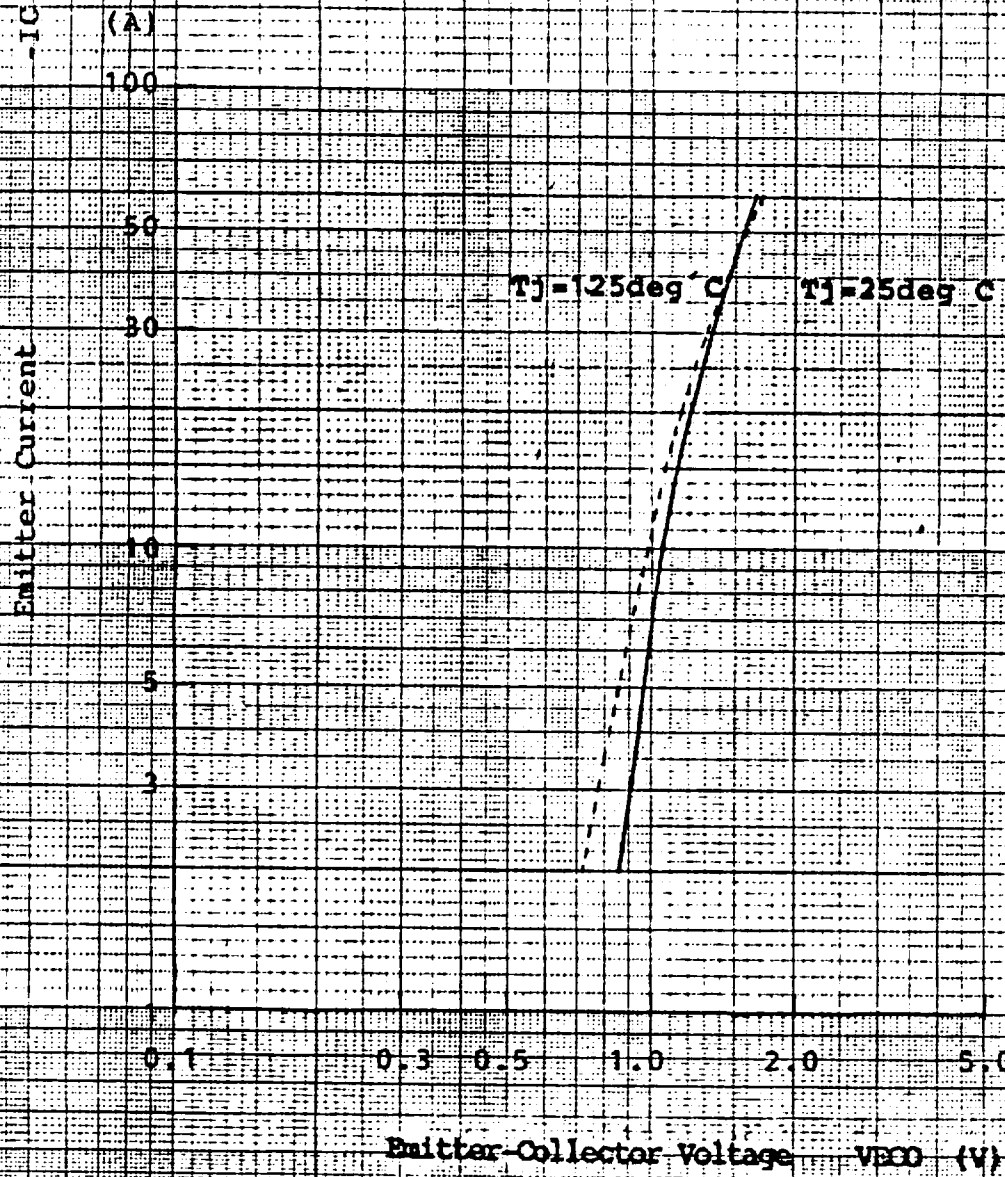
IB2

(A)

IB2 Dependence of Turn off Time

MT5M5689 a 8/14

112 Vt IDA (S200) (3.1 MB)



FORWARD CHARACTERISTICS OF BUILT-IN RECOVERY DIODE

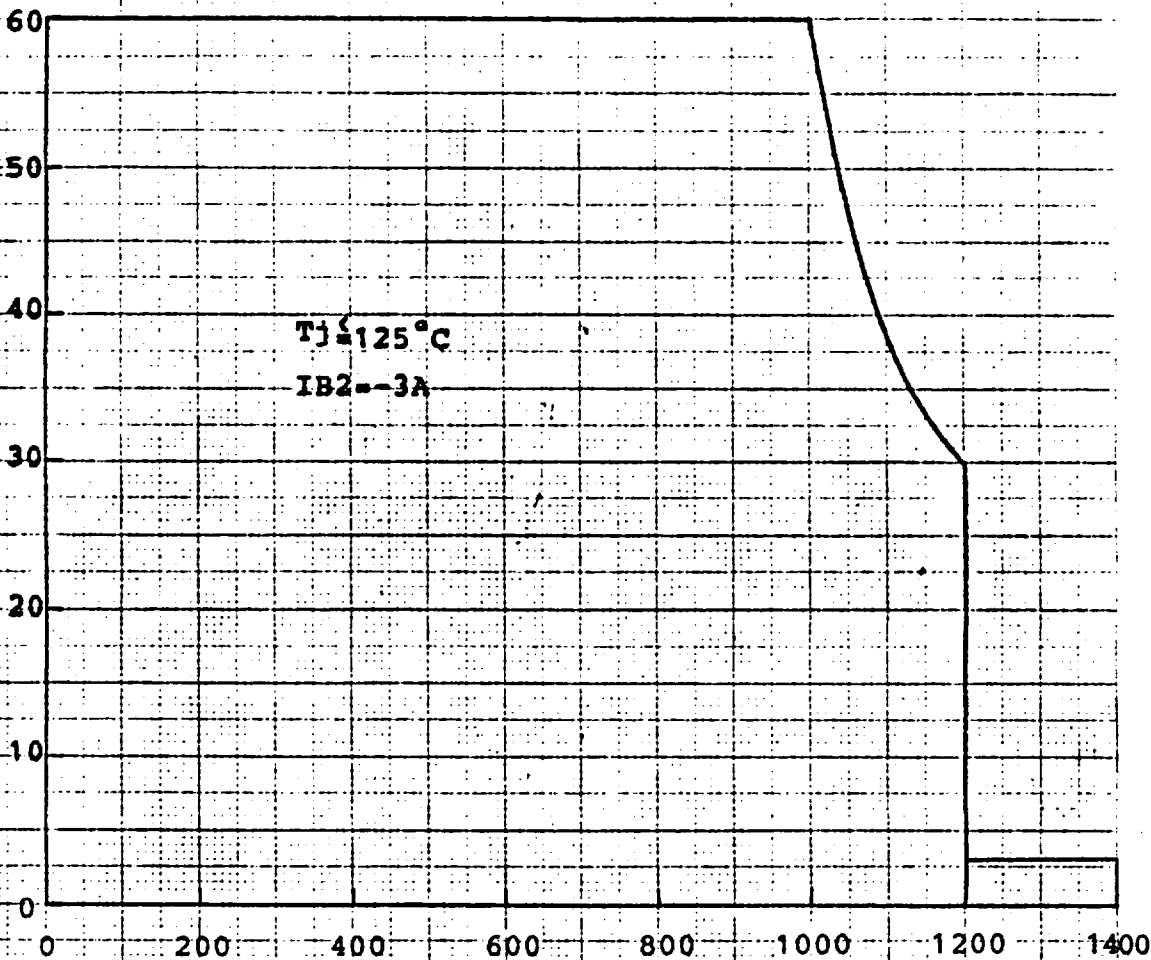
MT5M5689a 9/14

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92.0
93.0
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96.0
97.0
98.0
99.0
100.0

2DI30A-140

(A)

Collector Current
 I_C

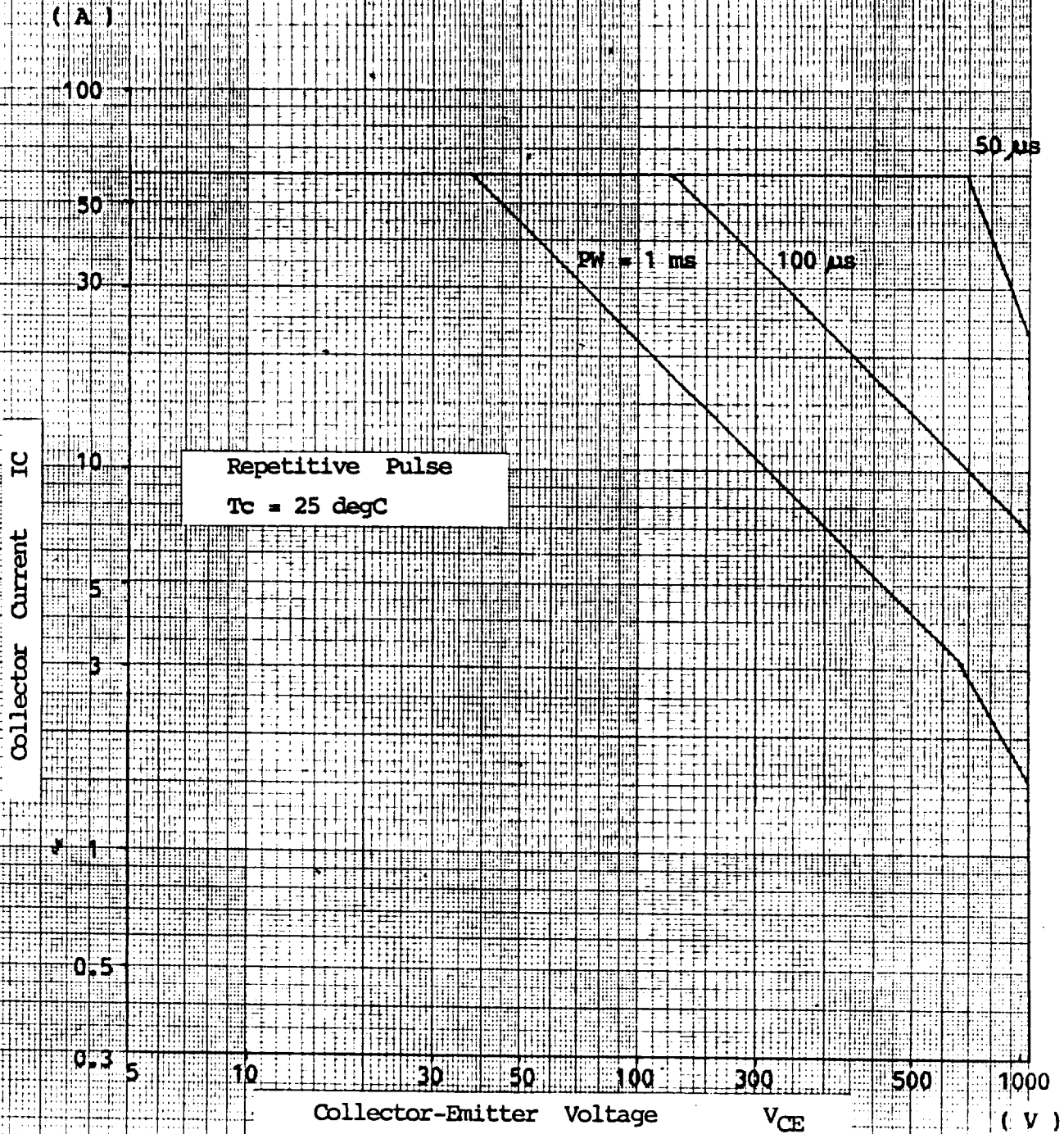


$T_j = 125^\circ\text{C}$
 $I_{B2} = -3\text{A}$

Collector-Emitter Voltage V_{CEX} (V)

REVERSE BIASED SAFE OPERATING AREA

Forward Biase Safe Operating Area



2DI30A-140

(°C/W)

0.5

0.3

0.1

0.05

0.03

0.01

0.005

0.003

Rth (j-c)

Thermal Resistance

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

0.003 0.0005 0.001

Time

t

0.01 0.02 0.03 0.5

0.1

0.3 0.5 1.0

(sec)

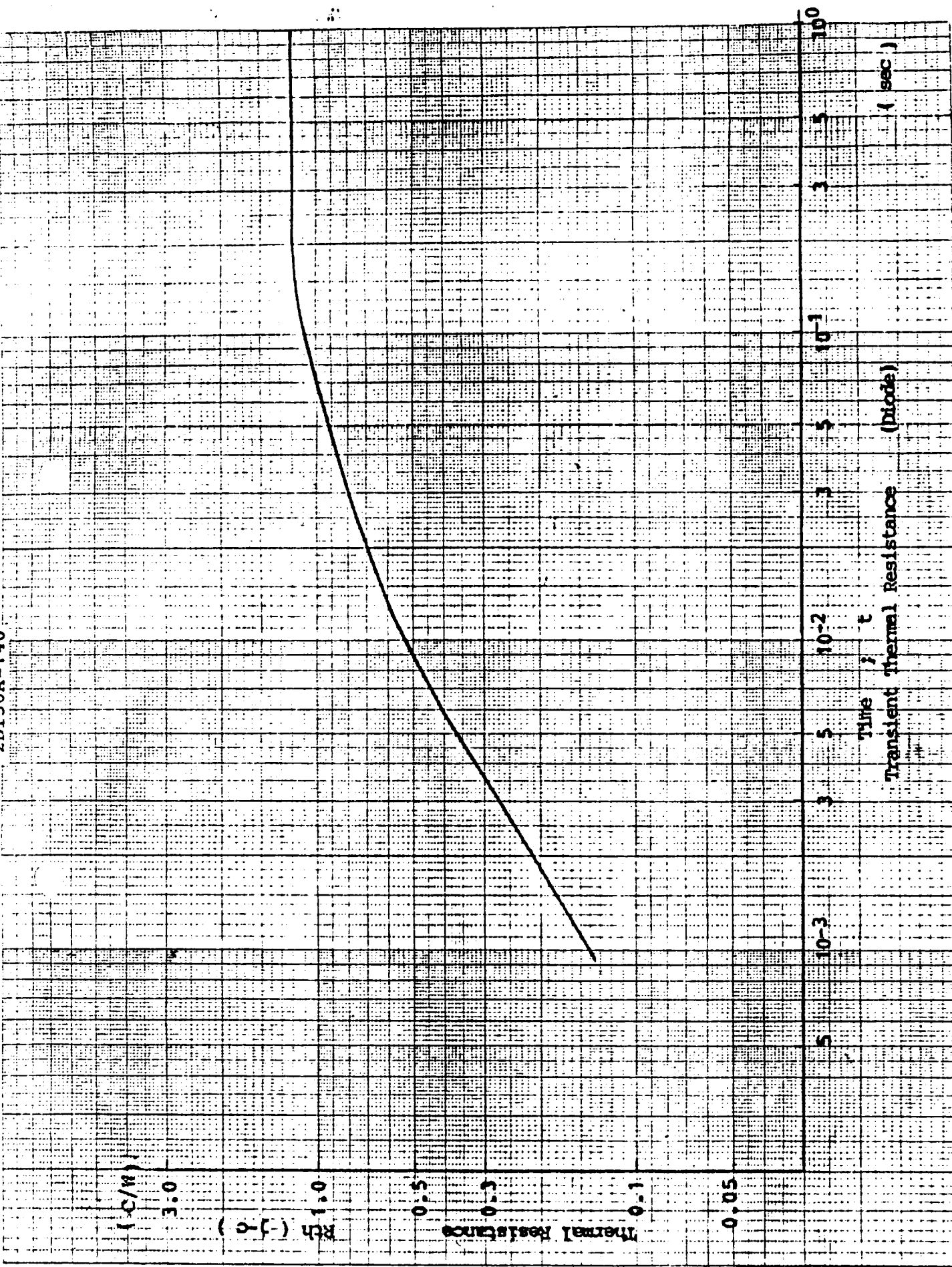
Transient Thermal Resistance

(Transistor)

MT5M5689a

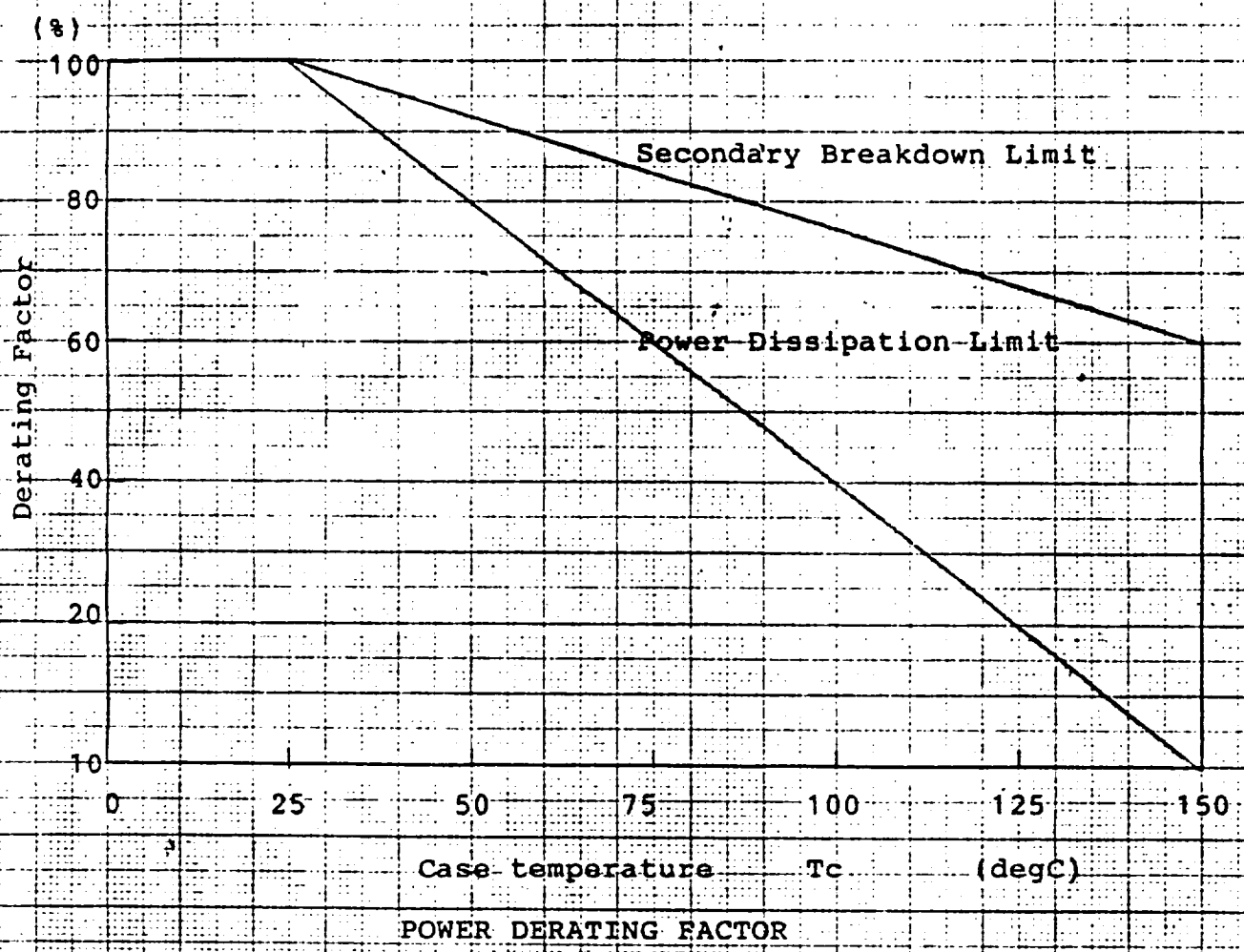
12/14

2DI30A-140



MT5M5689 a $\frac{13}{14}$

2DI30A-140



MT5M5689a 14/14