SPECIFICATION

DEVICE NAME : BIPOLAR TRANSISTOR

TYPE NAME : 2SC4603R

SPEC. No. :

DATE :

Fuji Electric Co.,Ltd.

This Specification is subject to change without notice.

	DATE	NAME	APPROVED		Fuji Electric Co.,Ltd.
DRAWN				DWG.NO.	
CHECKED					

Ratings and Characteristics of Fuji Power Transistor

2SC4603R

1. Outline Drawing : To-3PF
2. Absolute Maximum Ratings (Tc=25℃)

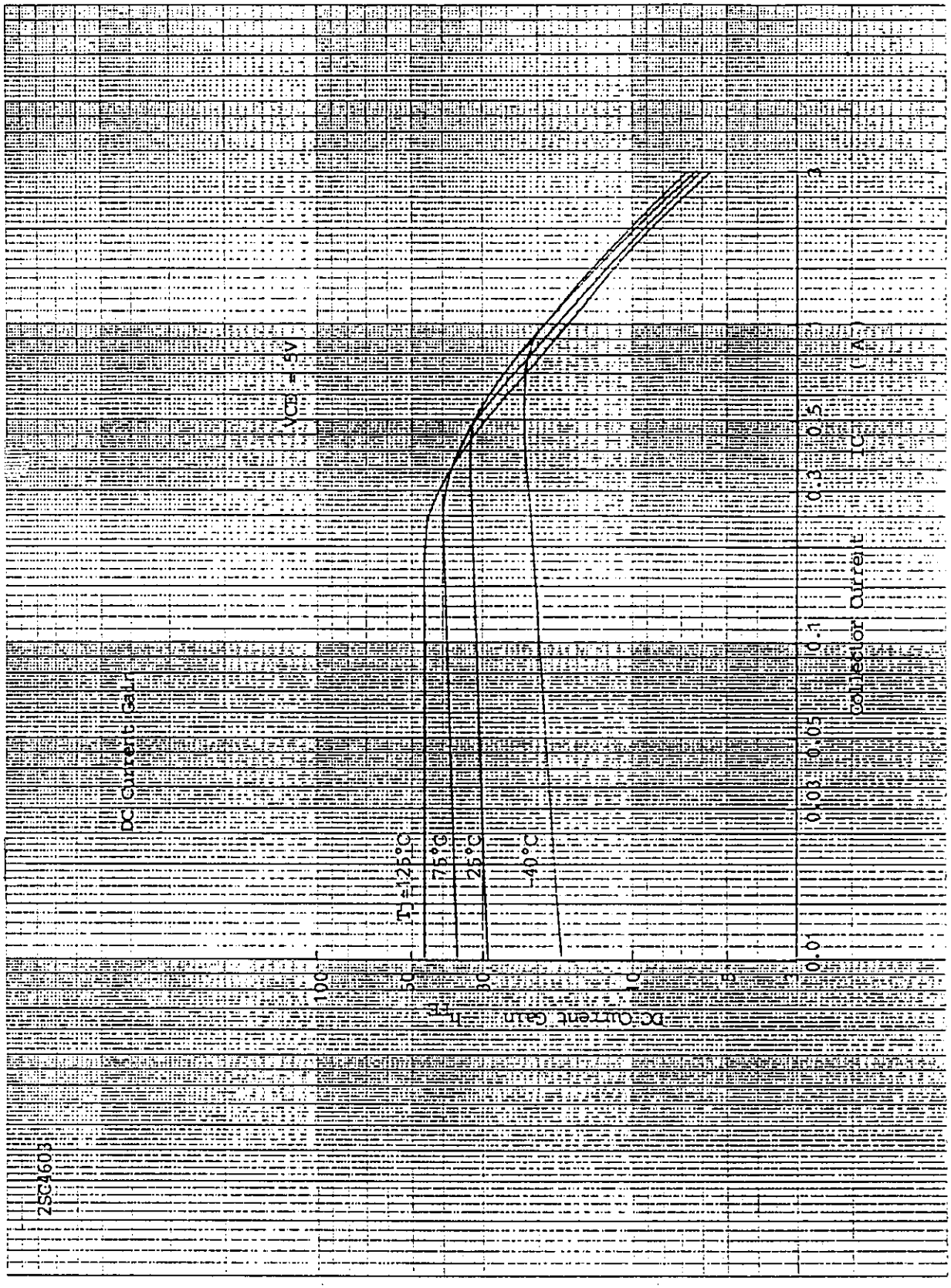
Item	Symbol	Maximum Rating	Unit
Collector-Base Voltage	VCBO	900	V
Collector-Emitter Voltage	VCEO	800	
Emitter-Base Voltage	VEBO	10	
Collector Current	IC	3	A
Base Current	IB	1	
Collector Dissipation	PC	80	W
Operating Temperature	Tj	+150	℃
Storage Temperature	Tstg	−55 ～ +150	

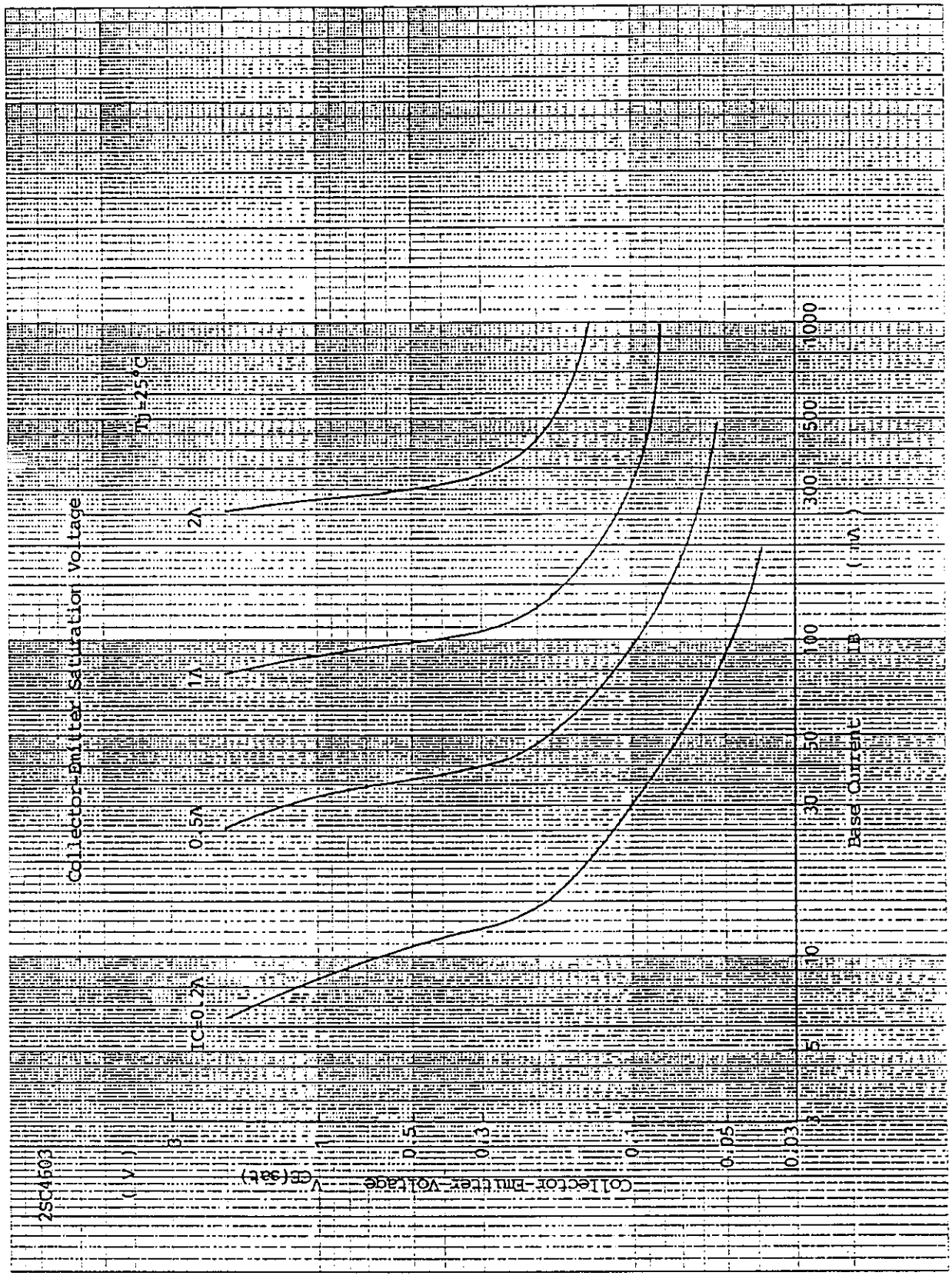
3. Electrical Characteristics (Tc=25℃)

Items	Symbol	Conditions	Min	Max	Unit
Collector-Base Voltage	VCBO	ICBO = 1mA	900		V
Collector-Emitter Vltage	VCEO	ICEO = 10mA	800		
Emitter-Base Voltage	VEBO	IEBO = 1mA	10		
Collector Cutoff Current	ICBO	VCB = 900V		1.0	mA
Emitter Cutoff Current	IEBO	VEBO = 10V		1.0	
DC Current Gain	hFE	IC=1A, VCE=5V	10		
Collector Saturation Voltage	VCE(sat)	IC = 1A, IB = 0.2A		1.0	V
Emitter Saturation Voltage	VBE(sat)			1.5	
Switching Time	ton	IC = 2A, Duty ≦2% IB1 = +0.4A, IB2 = -0.8A, PW = 20 μs, RL = 150Ω		1.0	μs
	tstg			4.0	
	tf			0.8	

4. Thermal Characteristics

Item	Symbol	Conditions	Min	Max	Unit
Thermal Resistance	Rth(j-c)	Junction to Case		1.55	℃/W


2SC4603
DC Current Gain
h_{FE}
V_{CB} = -5V
T_j=125°C
75°C
25°C
-40°C
1000
500
300
100
50
30
10
5
3
1
0.5
0.3
0.1
0.05
0.03
0.01
0.01
0.03
0.05
0.1
0.3
0.5
1
3
Collector Current
I_C (A)



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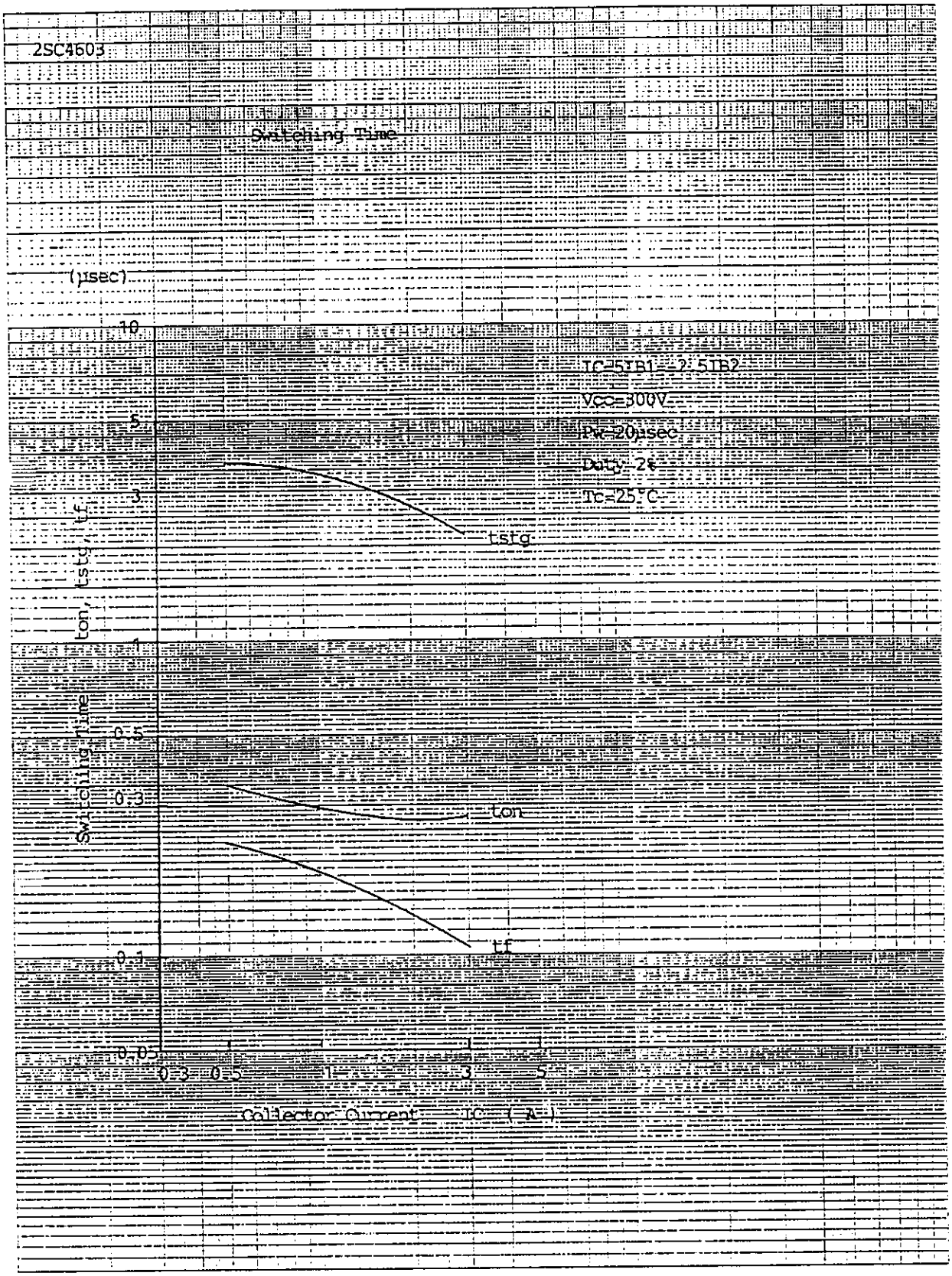
Collector and Base Saturation Voltage
IC-5 IB
Tj=-40°C
125°C
75°C
25°C
Tj=-40°C
25°C
75°C
125°C
Saturation Voltage VCE(sat), VBE(sat)
(V)
Collector Current IC (A)
0.01
0.03
0.05
0.1
0.3
0.5
1
3
5


2SC4603
Switching Time
(μsec)
10
5
3
1
0.5
0.3
0.1
0.05
tstg
ton
tf
IC=5IB1=-2.5IB2
Vcc=300V
Pw=20μsec
Duty 2%
Tc=25°C
tstg
ton
tf
0.3
0.5
1
3
5
Collector Current IC (A)

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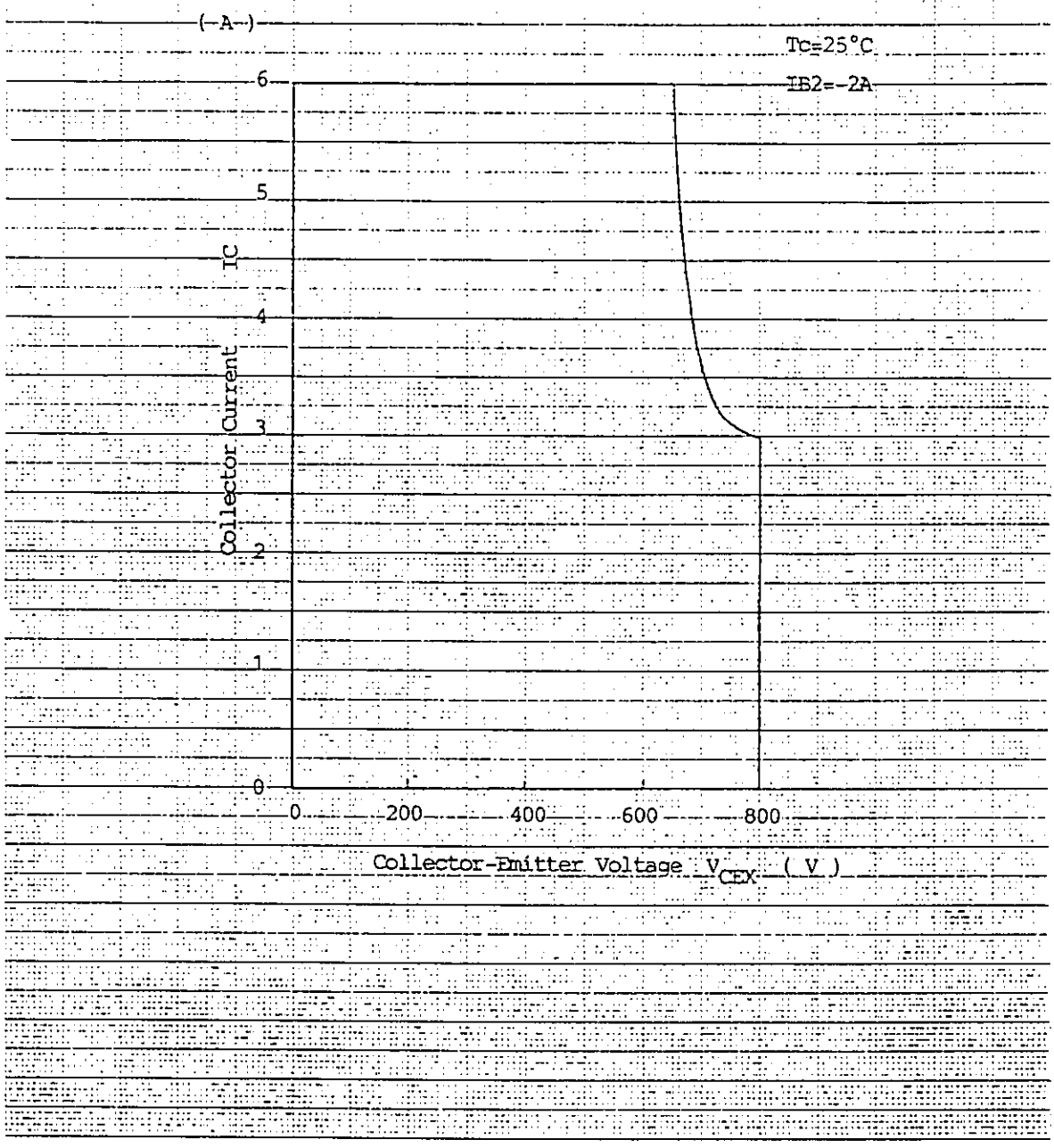
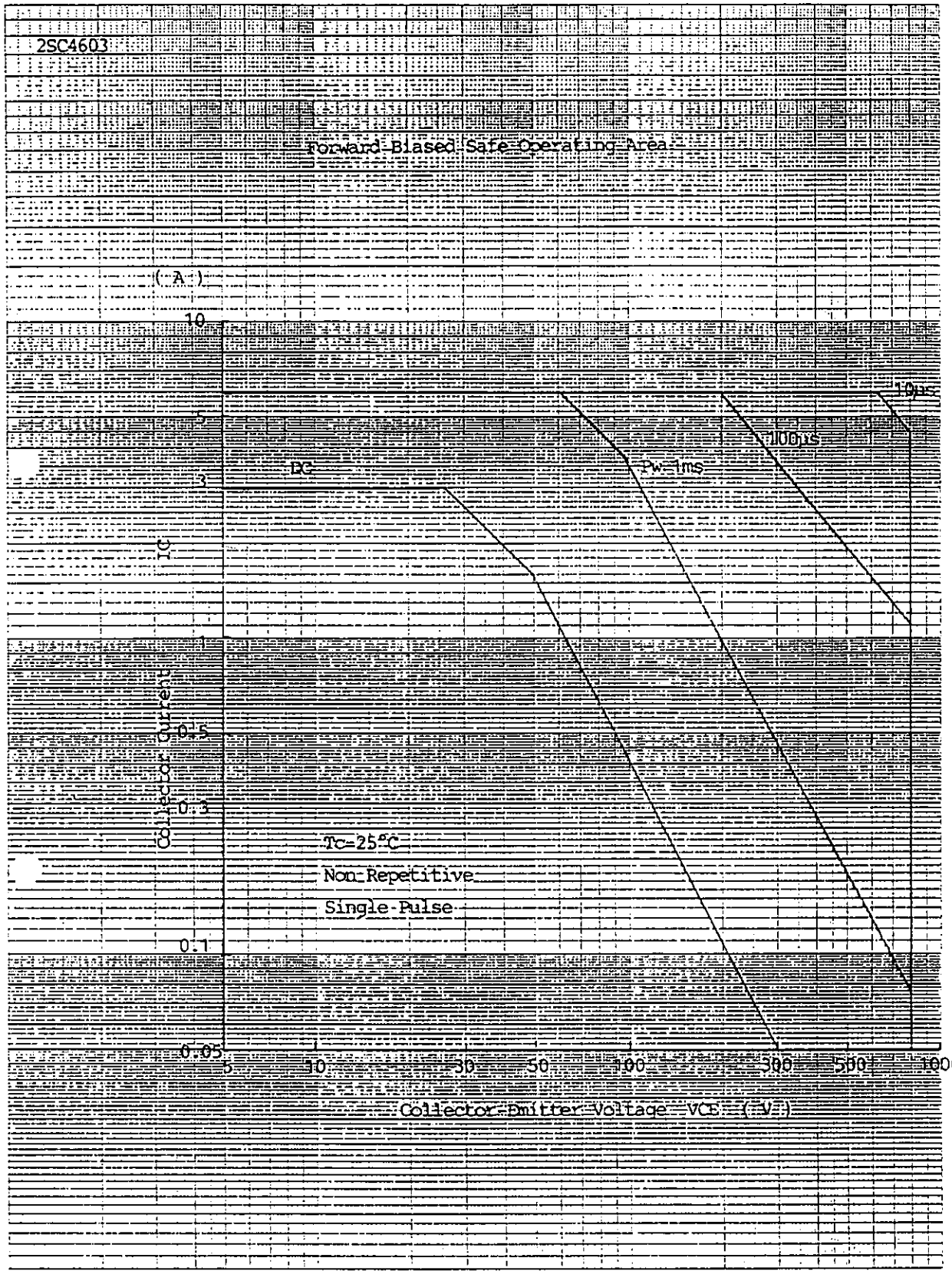
Reverse Biased Safe Operating Area




2SC4603
Forward-Biased Safe Operating Area
(A)
10
5
3
1
0.5
0.3
0.1
0.05
Collector Current IC
DC
Pw=1ms
100μs
10μs
Tc=25°C
Non-Repetitive
Single-Pulse
5
10
30
50
100
300
500
1000
Collector-Emitter Voltage VCE (V)

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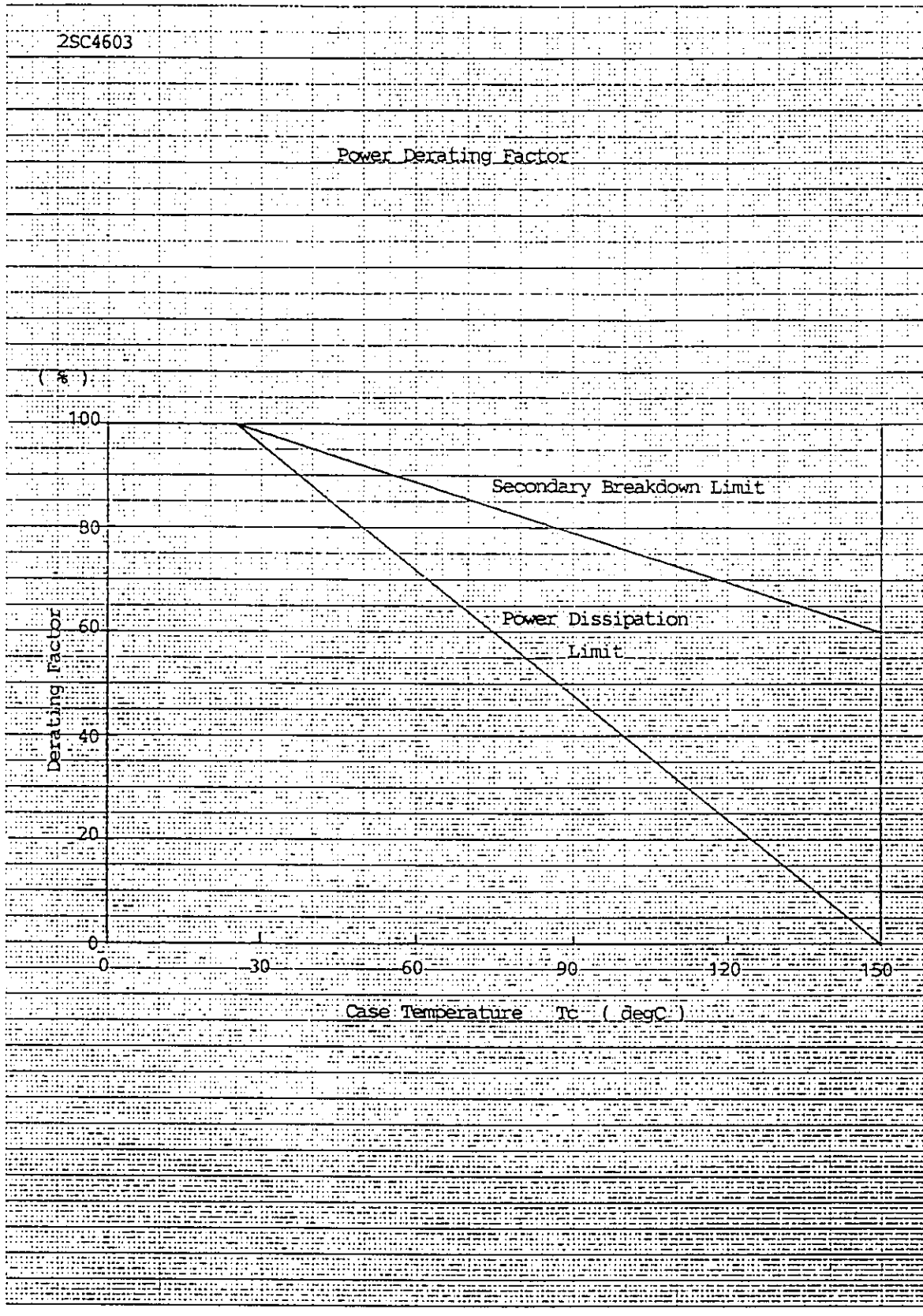
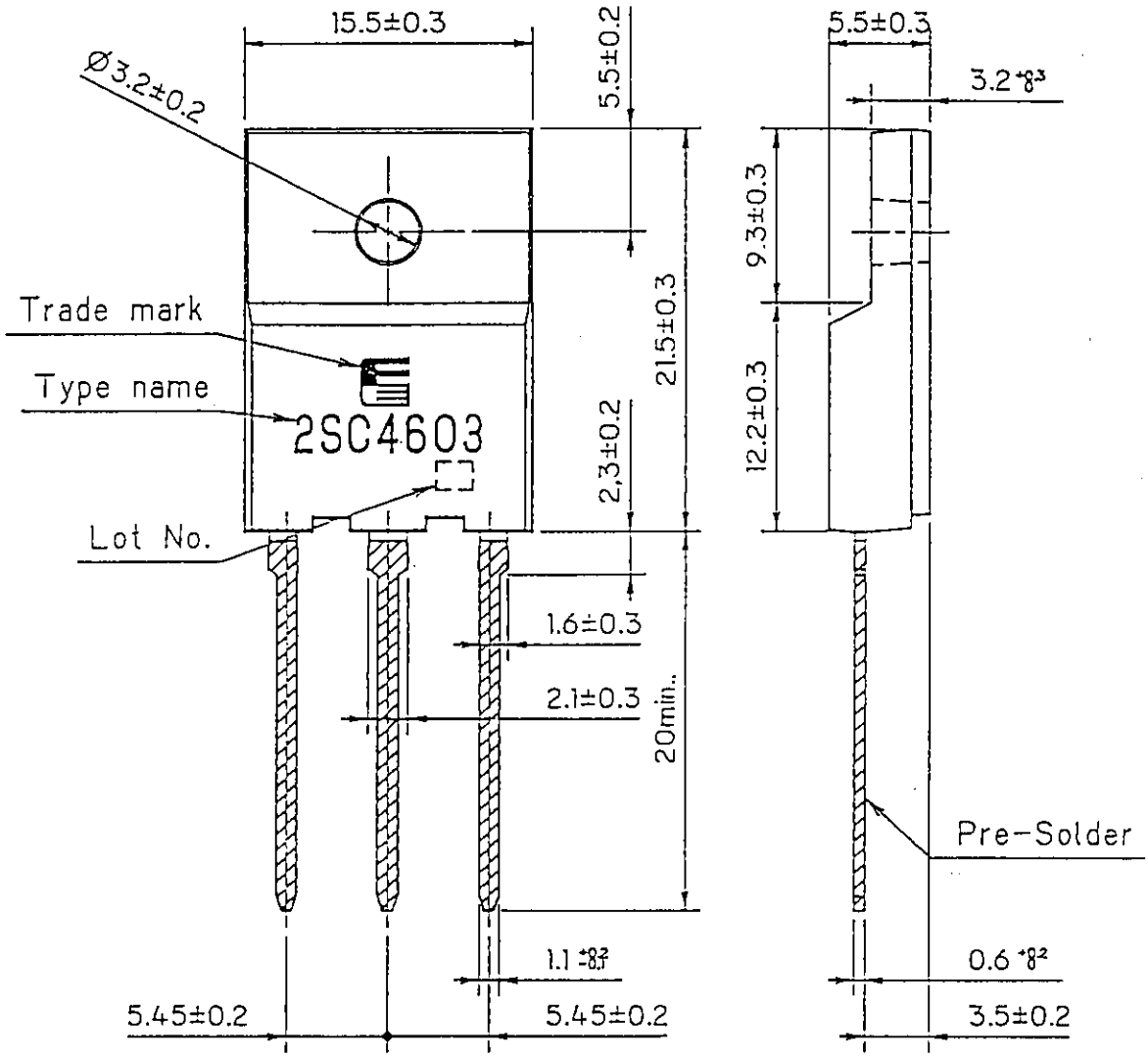
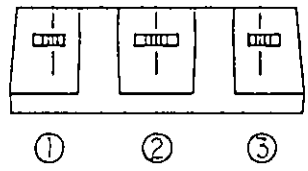

Power Derating Factor
(%)
100
80
60
40
20
0
Derating Factor
Secondary Breakdown Limit
Power Dissipation
Limit
0
30
60
90
120
150
Case Temperature Tc (degC)

FUJI POWER TRANSISTOP

TYPE : 2SC4603R





CONNECTION

① BASE
② COLLECTOR
③ EMITTER

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