

S P E C I F I C A T I O N

DEVICE NAME : BIPOLAR TRANSISTOR

TYPE NAME : E T 3 9 3 R

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.	1/8
CHECKED						

Ratings and Characteristics of Fuji Power Transistor

E T 3 9 3 R

1. Outline Drawings T0-3PF

2. Absolute Maximum Ratings (Tj=25°C)

Item	Symbols	Maximum Ratings	Units
Collector-Base Voltage	V_{CB0}	1 5 0	V
Collector-Emitter Voltage	V_{CE0}	1 0 0	
Emitter-Base Voltage	V_{EB0}	6	
Collector Current (Continuous)	I_C	1 0	A
Base Current (Continuous)	I_B	1	
Collector Power Dissipation	P_C	8 0	W
Operating Temperature	T_j	+ 1 5 0	°C
Storage Temperature	T_{stg}	- 5 5 ~ + 1 5 0	

3. Electrical Characteristics (Tj=25°C)

Item	Symbols	Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_{CB0} = 1mA$	150		V
Collector-Emitter Voltage	$V_{CE0(SUS)}$	$I_{CB0} = 10mA$	100		
Emitter-Base Breakdown Voltage	V_{EB0}	$I_{EB0} = 1mA$	6		
Collector Cutoff Current	I_{CB0}	$V_{CB0} = 150V$		1.0	mA
Emitter Cutoff Current	I_{EB0}	$V_{EB0} = 6V$		1.0	
DC Current Gain	h_{FE}	$I_C = 3A \quad V_{CE} = 4V$	700		
Collector Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A$		1.5	V
Base Saturation Voltage	$V_{BE(sat)}$	$I_B = 50mA$		2.0	

4. Thermal Characteristics

Item	Symbols	Conditions	Min	Max	Unit
Thermal Resistance	$R_{\theta(j-c)}$	Junction to Case		1.55	°C/W

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Y 0257-R-003a

ET393

 $V_{CE}=4V$ $T_C=50^\circ C$ $T_C=25^\circ C$ $T_C=30^\circ C$

50000

30000

10000

5000

3000

DC Current Gain

 h_{FE}

1000

500

300

100

0.03

0.05

0.1

0.3

0.5

1

3

5

10

Collector Current I_C (A)

DC Current Gain

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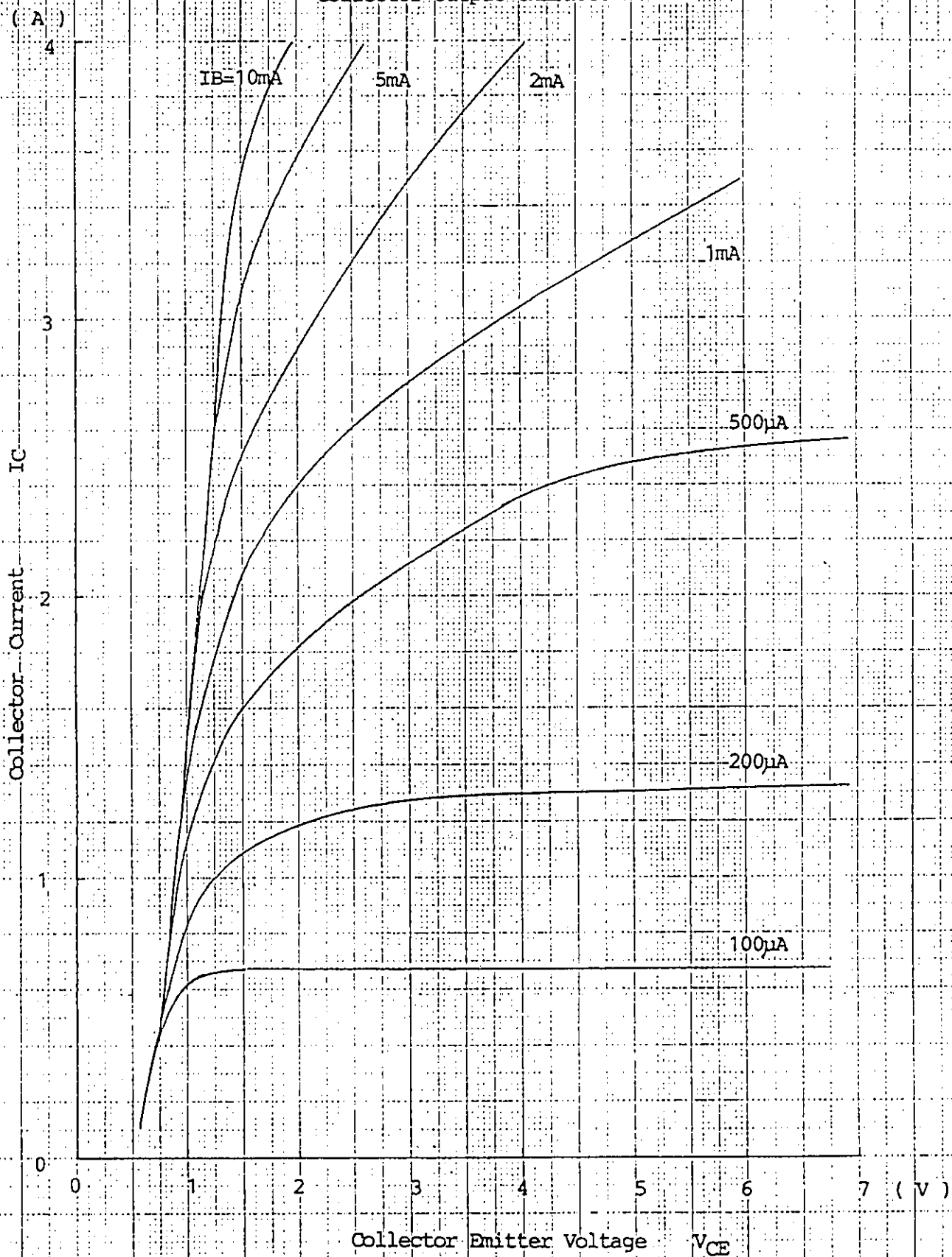
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Collector Output Characteristics



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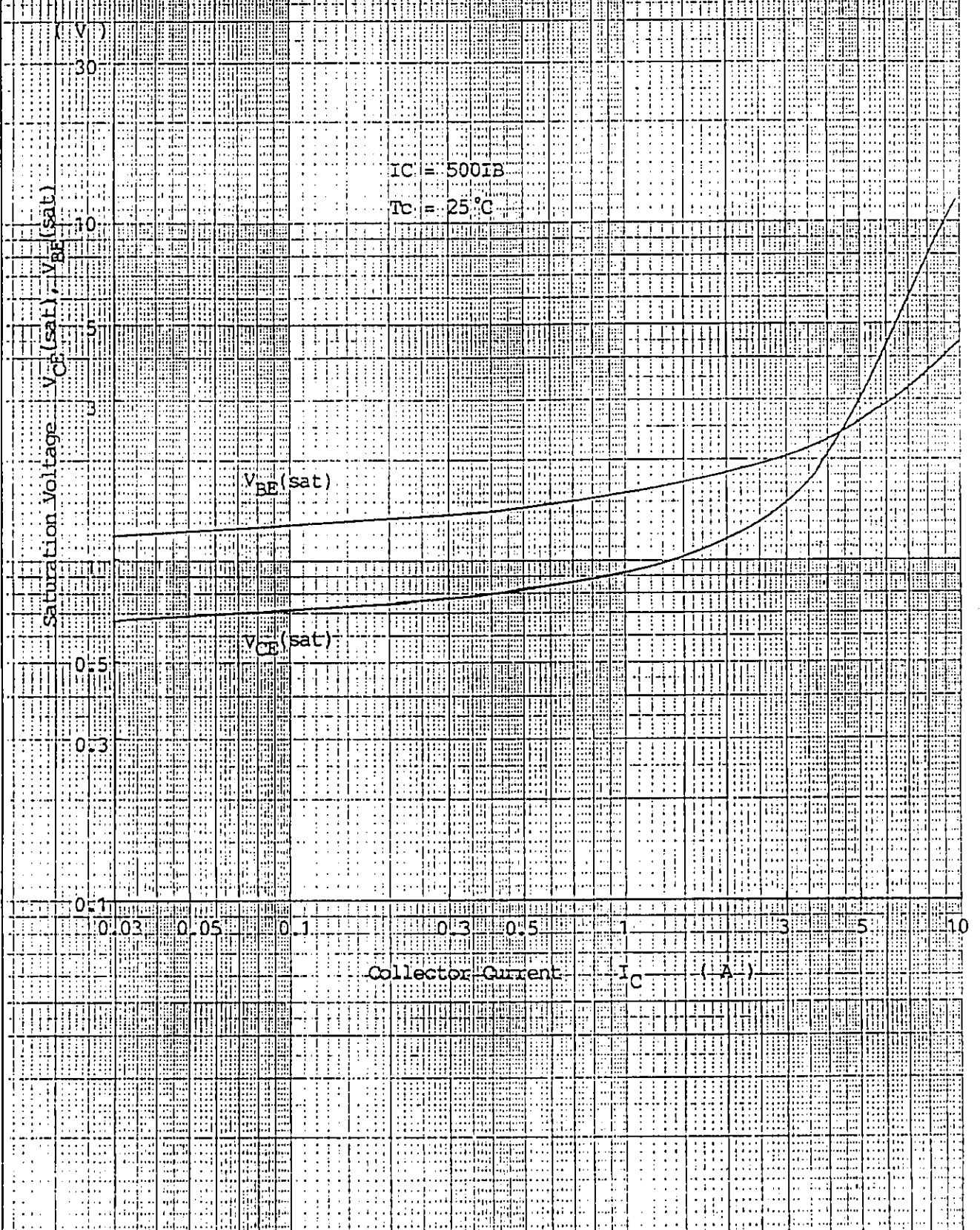
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ET395

Collector and Base Saturation Voltage



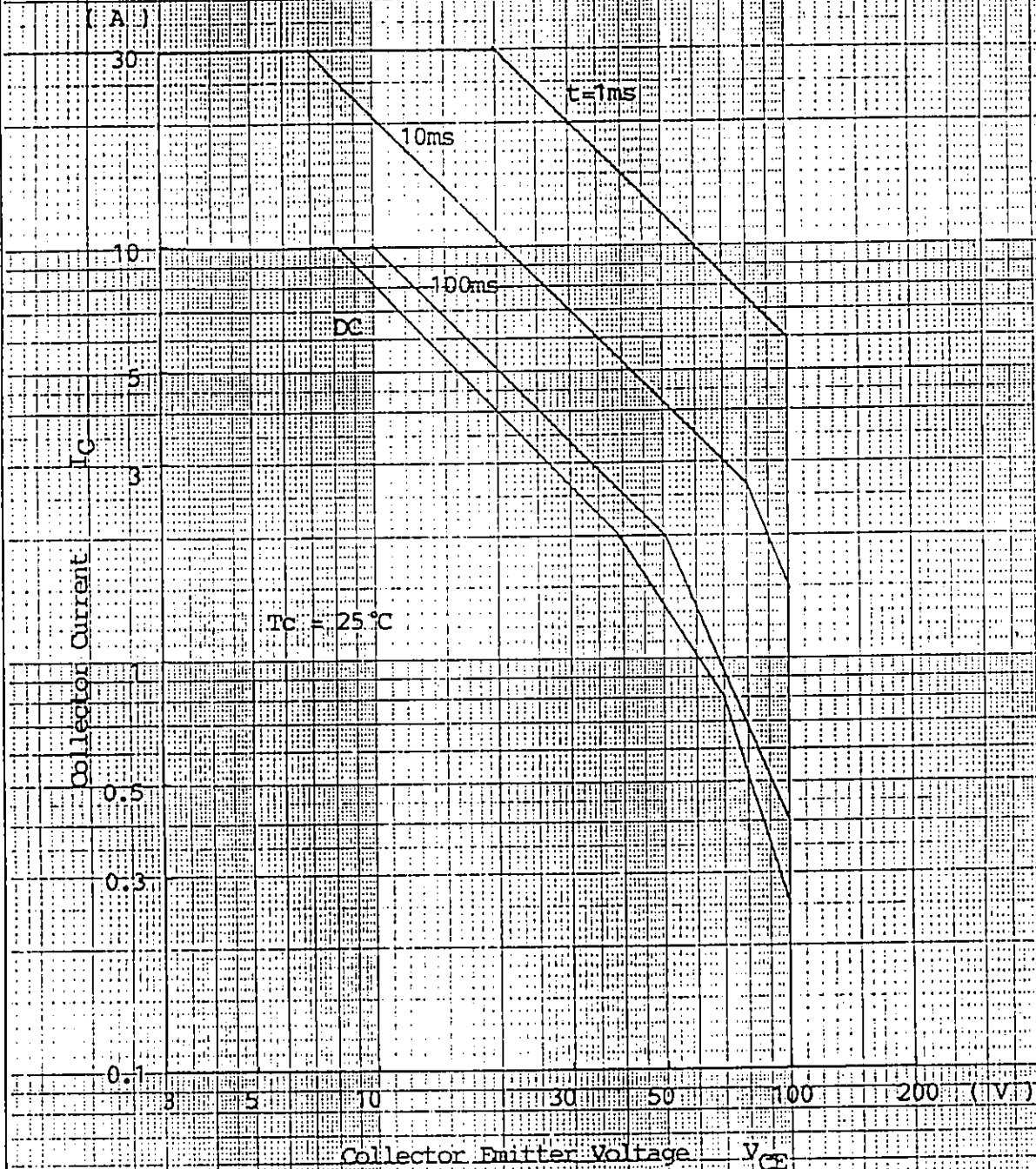
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ET398



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ET393

$^{\circ}\text{C}/\text{w}$

Transient Thermal Impedance

5.0

2.0

2.0

$R_{th}(j-c)$

1.0

0.5

0.2

0.1

0.05

0.02

Thermal Resistance

1000 500 200 100 50 20 10 5.0 2.0 1.0 0.5 0.2

Time : T (msec)

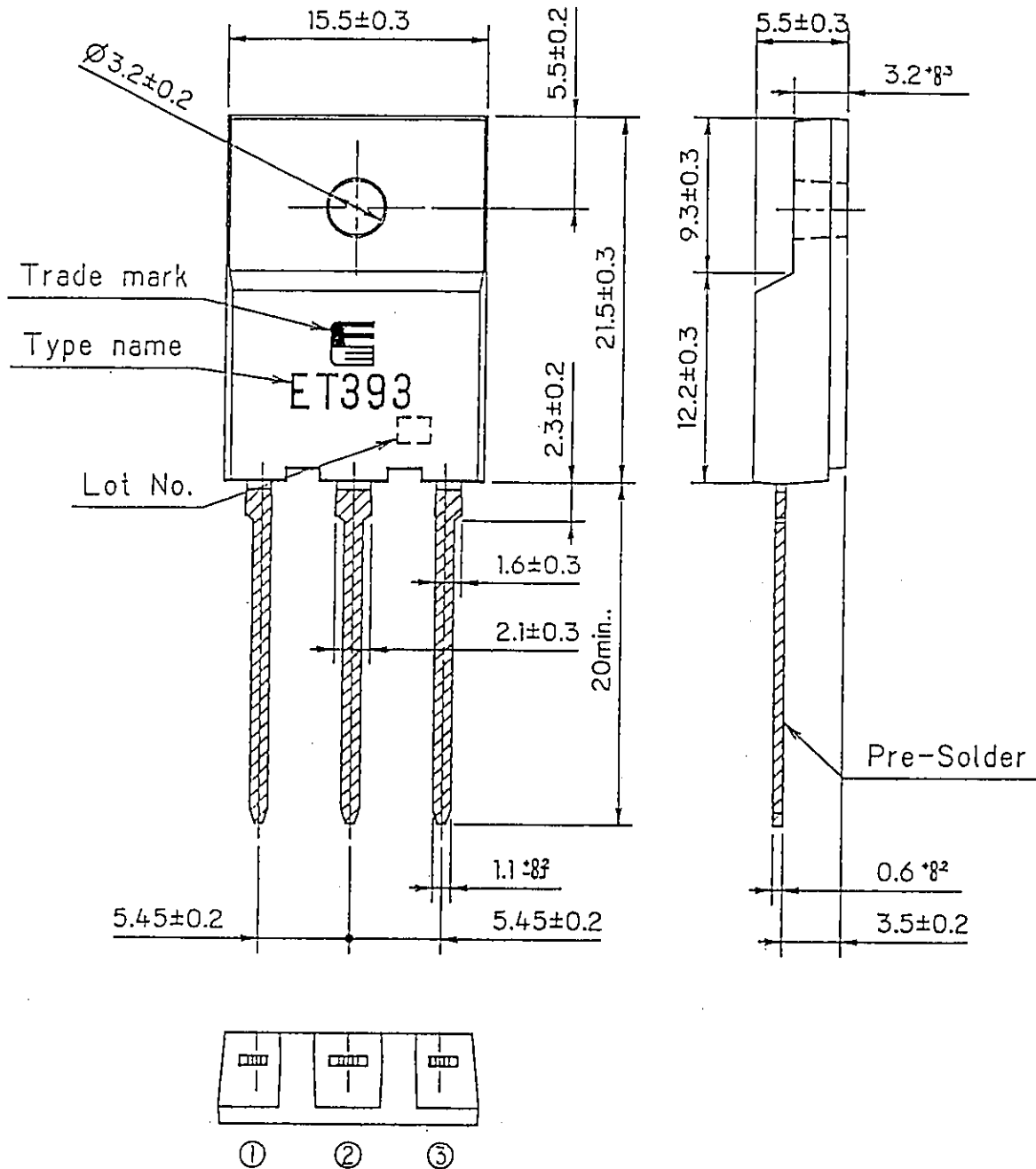
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FUJI POWER TRANSISTOR
TYPE : ET393R



CONNECTION

- ① BASE
- ② COLLECTOR
- ③ EMITTER

DIMENSIONS ARE IN MILLIMETERS.

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For more information, contact:

Collmer Semiconductor, Inc.

P.O. Box 702708

Dallas, TX 75370

972-233-1589

972-233-0481 Fax

<http://www.collmer.com>