

FUJI IGBT SPECIFICATION

TYPE NAME : IMBA10-Q90

1. SCOPE

This specification covers the ratings and requirements for FUJI IGBT Type IMBA10-Q90.
 Application : for General Switching Power Supply.

2. OUT VIEW

2-1 Shape and Dimensions

Shape and Dimensions shall be described in MS5F2381 page 4/10.

Package : TO-3PF

2-2 Appearance shall be missing striking defects impire the value of goods for example crack and flaw.

2-3 Identification

Marking of identification shall be described in MS5F2381 page 4/10.

3. RATINGS AND CHARACTERISTICS

(1) Table of ratings are described in MS5F2381 page 2/10.

(2) Characteristics curves are described in MS5F2381 page 5/10 through 10/10.

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Checked Nov. 4 '92. K. Sawada

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4. Absolute maximum ratings (Tc=25°C unless otherwise noted)

Items	Symbols	maximum ratings	Unit	
Collector-Emitter Voltage	V _{CE}	900	V	
Gate-Emitter Voltage	V _{GE}	± 20	V	
Collector Current	Continuous	I _c	10	A
	Pulse-50μs	I _{cP}	30	A
Power Dissipation	P _c	100	W	
Operating Temperature	T _j	+ 150	°C	
Storage Temperature	T _{stg}	-40 ~ +150	°C	

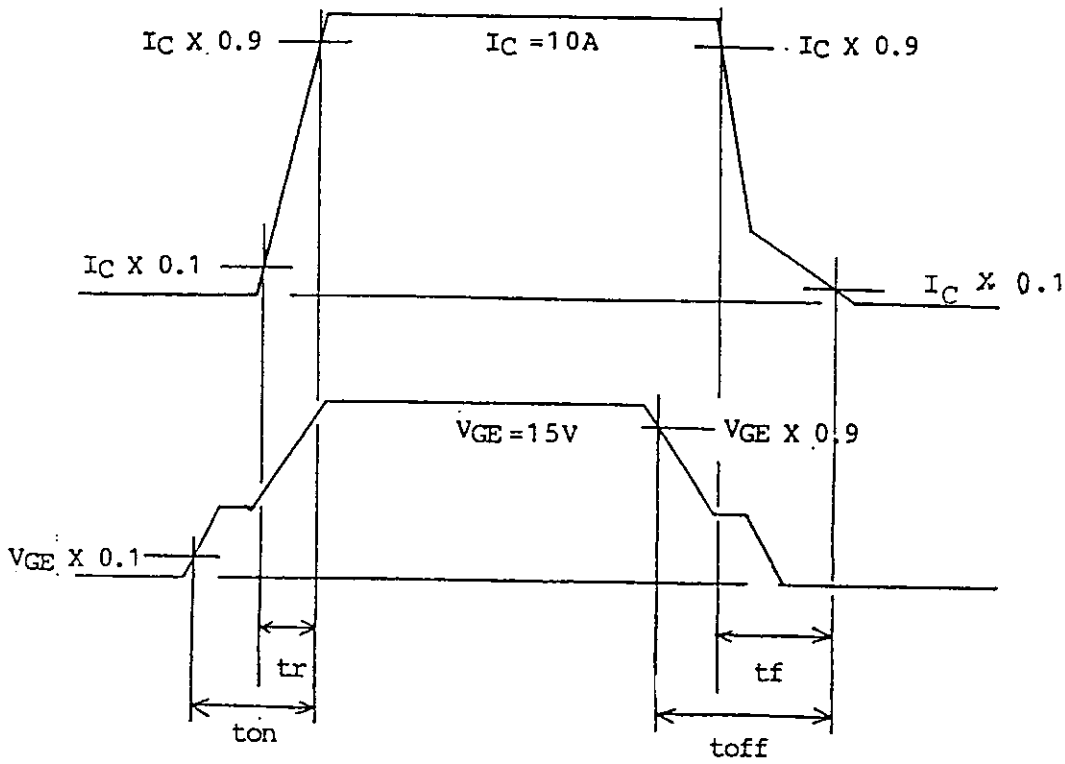
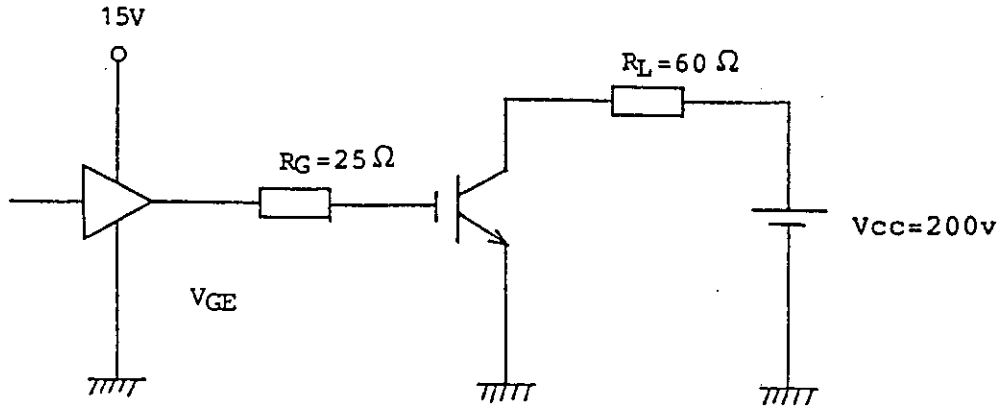
5. Electrical Characteristics (Tc=25°C unless otherwise noted)

Items	Symbols	Conditions	KIN.	TYP.	MAX.	Unit
Gate-Emitter Leakage Current	I _{GES}	V _{GE} = ± 20V, V _{CE} = 0			100	nA
Collector Cutoff Current	I _{CES}	V _{CE} = 900V, V _{GE} = 0V			1	mA
Gate-Emitter Threshold Voltage	V _{GE (th)}	V _{CE} = 10V, I _c = 10mA	2		5	V
Collector-Emitter Saturation Voltage	V _{CE (sat)}	I _c = 4A, V _{GE} = 15V	1.3		2.8	V
		I _c = 10A, V _{GE} = 15V	1.7		4.0	
Input Capacitance	C _{ies}	V _{GE} = 0V, V _{CE} = 25V f = 1MHz		1000		pF
Switching Characteristics	t _{on}	V _{CC} = 200V I _c = 10A V _{GE} = 15V R _G = 25Ω		0.18	0.30	μs
	t _r			0.13	0.25	μs
	t _{off}			0.75	1.50	μs
	t _f		Refer to Fig.1		0.15	0.30
Thermal Resistance	R _{th(j-c)}				1.25	°C/W

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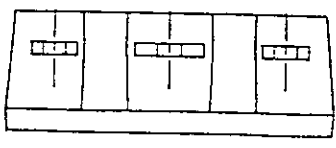
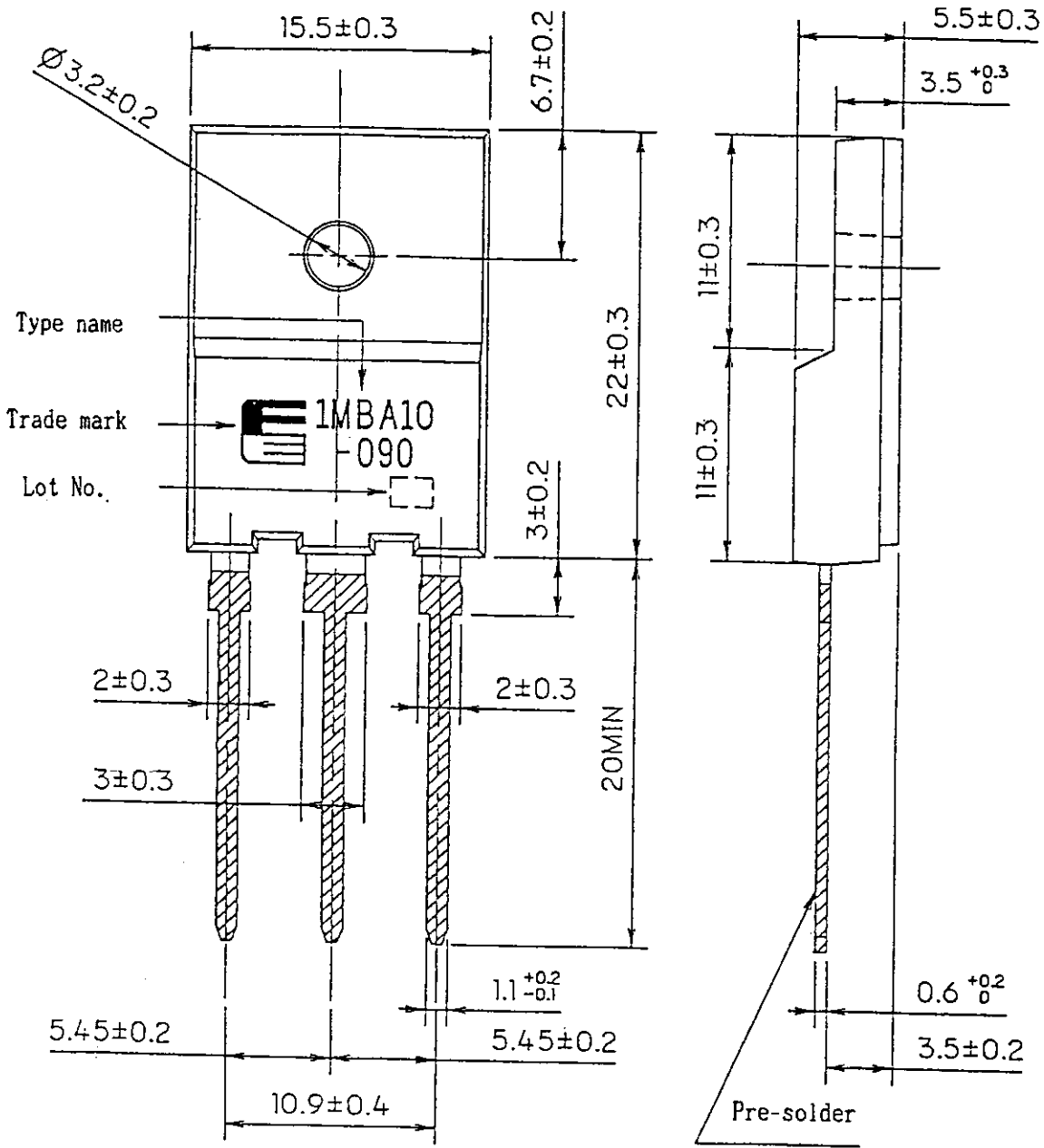
Fig.1 Switching Characteristic Measurement Circuit and Switching Waveform



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Fig.2 Out View



- ① GATE : G
- ② COLLECTOR : C
- ③ EMITTER : E

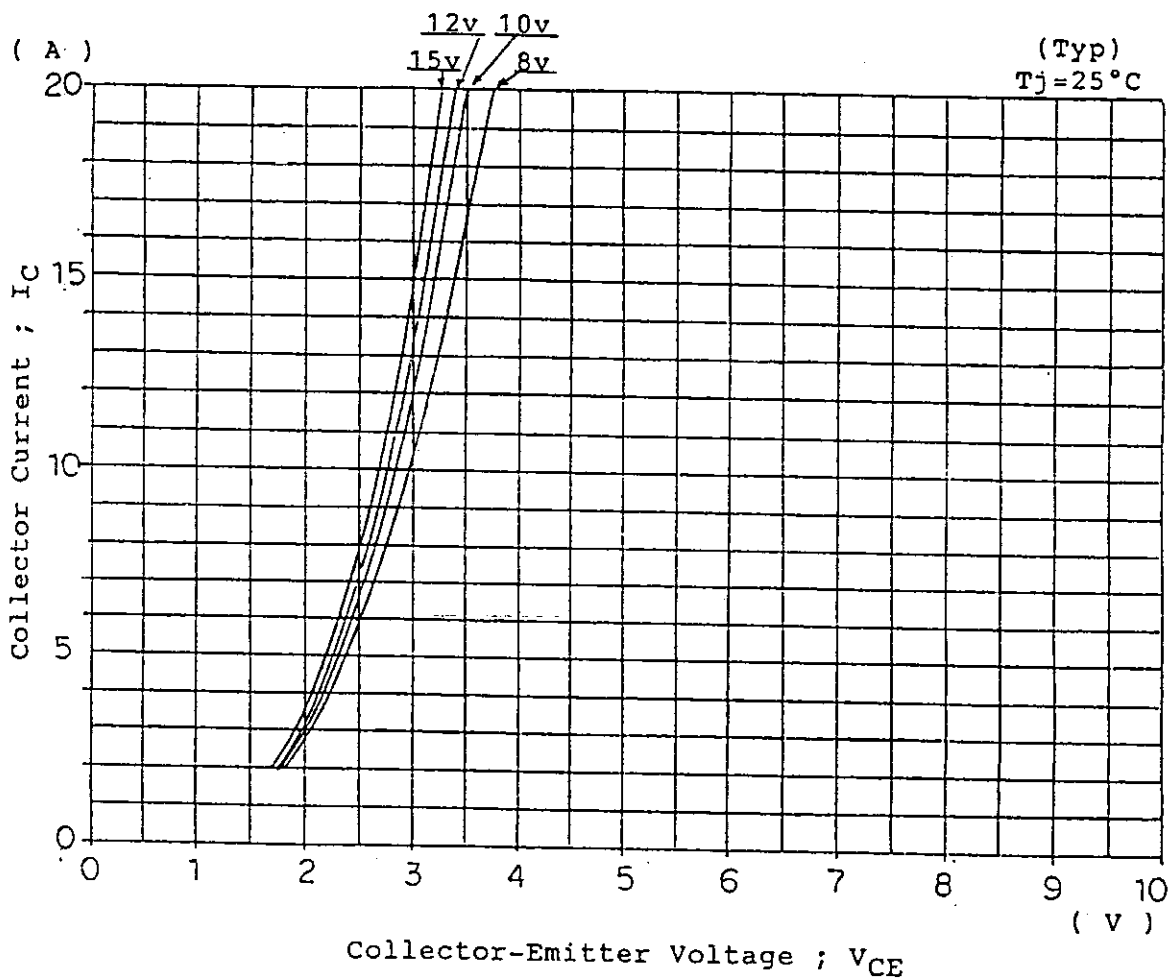
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Typical Output Characteristics



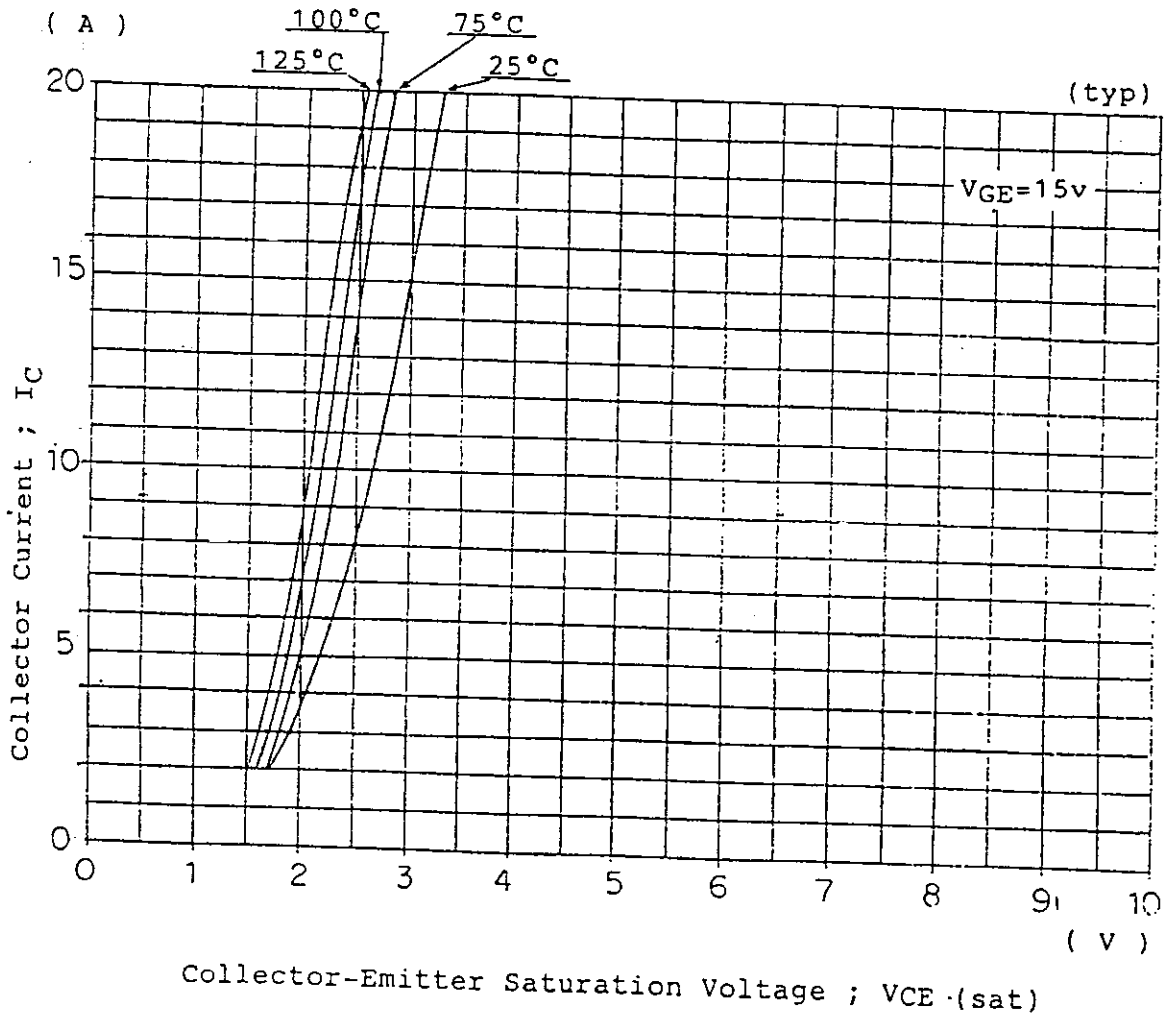
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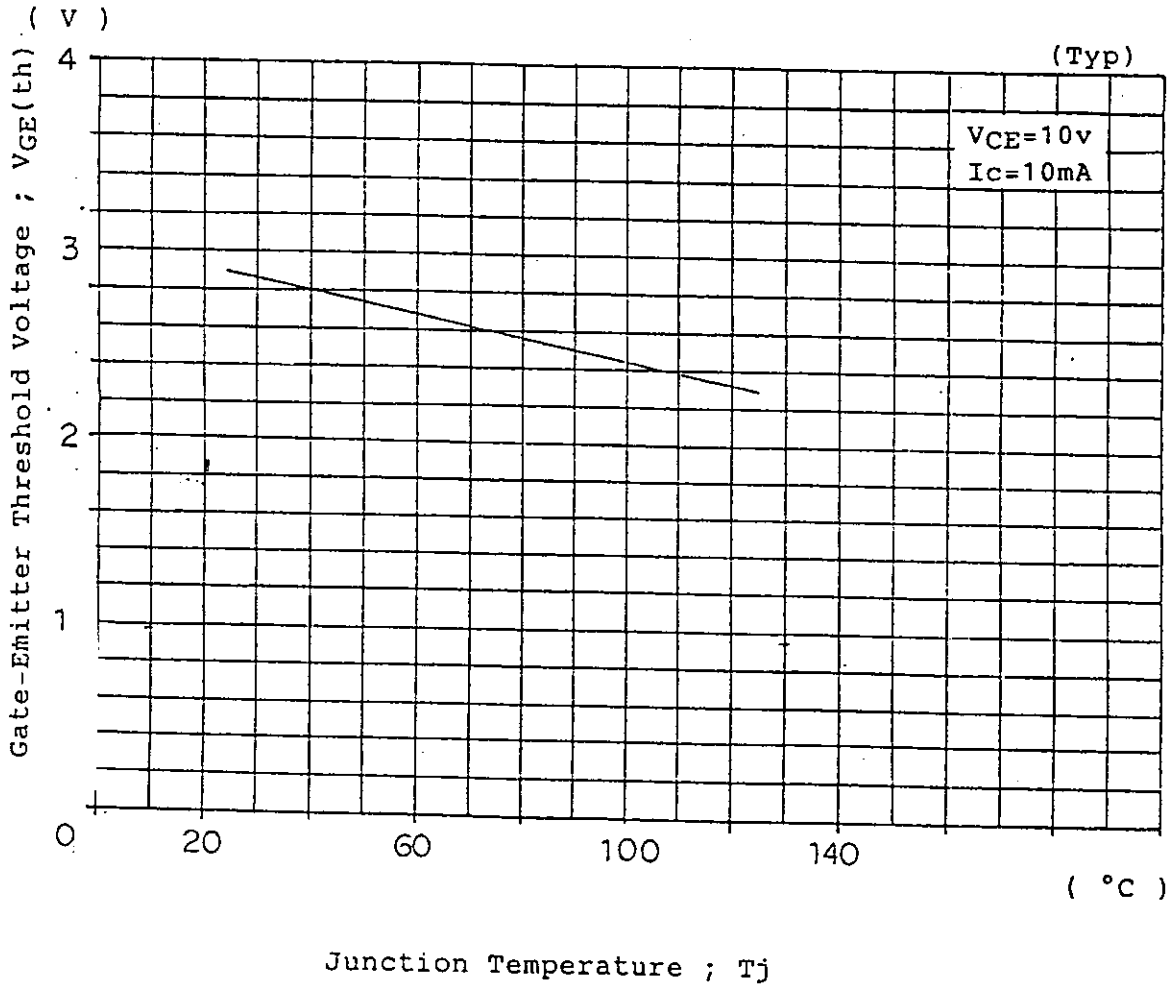
Collector Current vs. Collector-Emitter Saturation Voltage



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Threshold Voltage vs. Junction Temperature

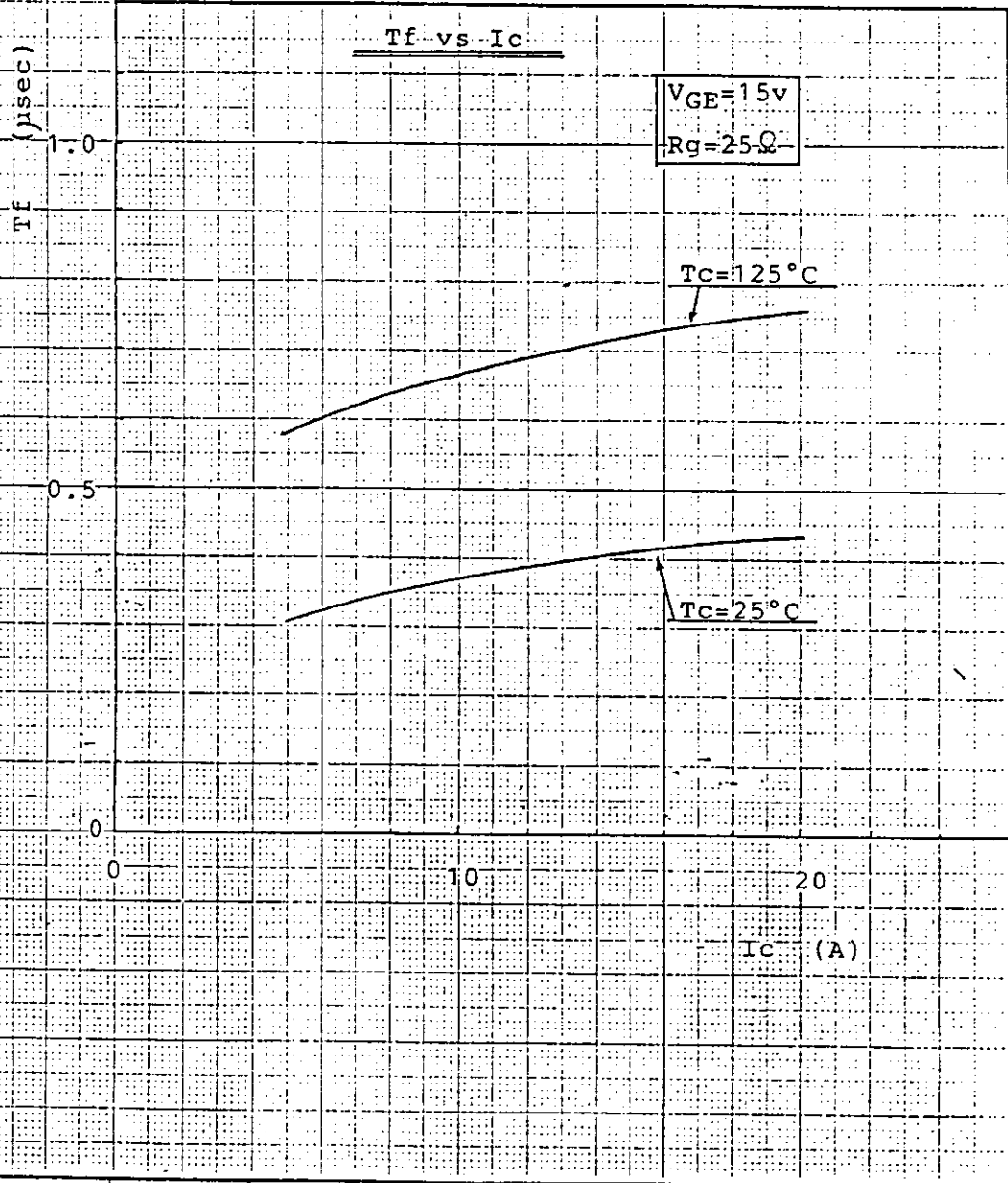


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Toff vs Ic

V_{GE} = 15v
R_g = 25 Ω

Toff (μsec)

1.0
0.5
0

T_c = 125°C

T_c = 25°C

20
10
0
Ic (A)

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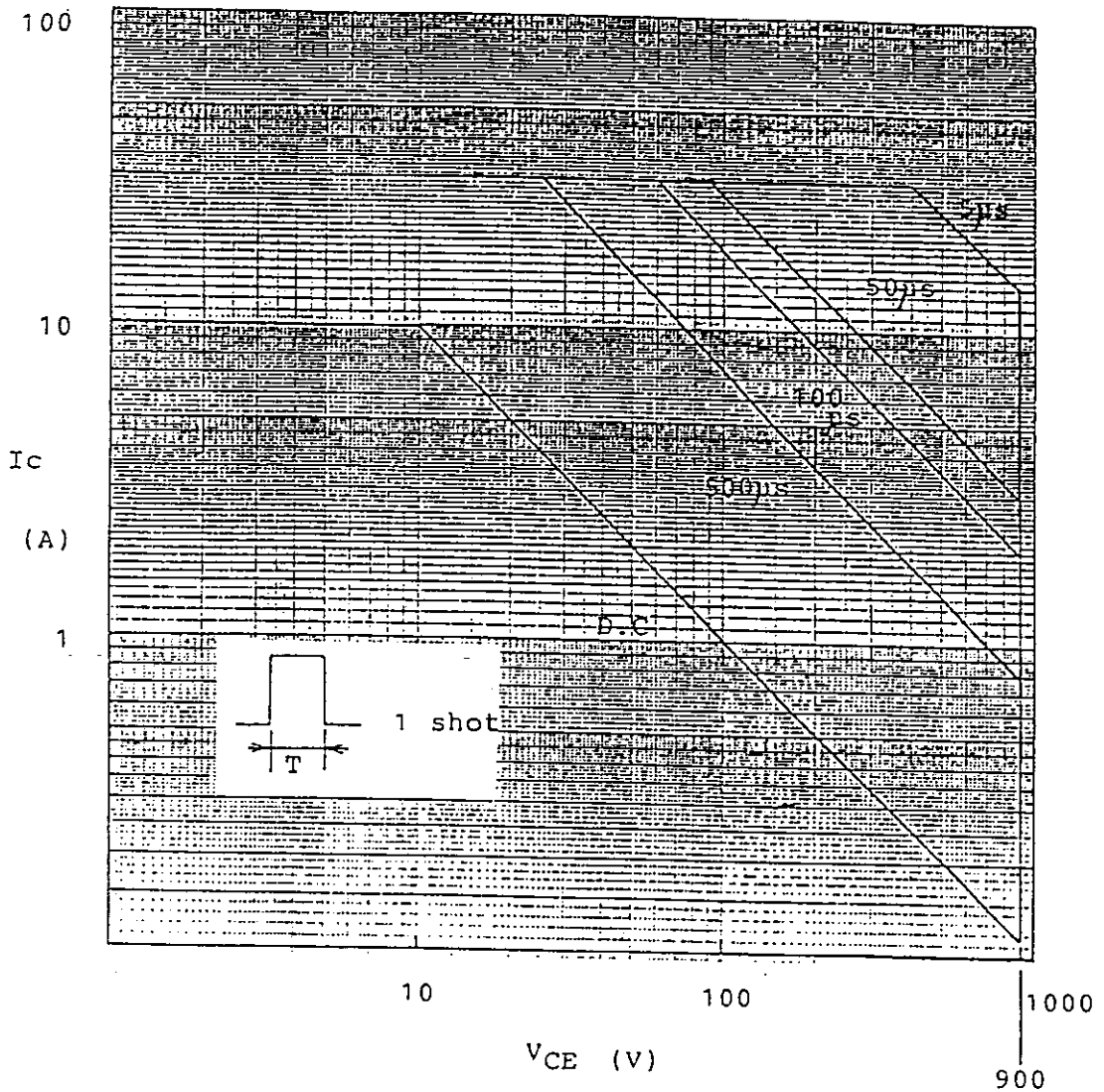
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Safe Operating Area



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