DESCRIPTION

- ·With TO-220Fa package
- ·Complement to type 2SA1396
- ·Low collector saturation voltage
- ·High switching speed

APPLICATIONS

- ·Switching regulator
- ·DC-DC converter
- ·High frequency power amplifier

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

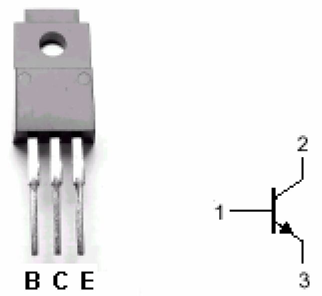

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current(DC)		10	A
I_{CM}	Collector current-peak		20	A
I_B	Base current (DC)		5	A
P_C	Collector power dissipation	T_C=25□	30	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-55~150	□

CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	I_C=5A ;I_B=0.5A;L=1mH	100			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=5A ;I_B=0.5A			0.6	V
V_{BEsat}	Base-emitter saturation voltage	I_C=5A ;I_B=0.5A			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=100V; I_E=0			10	μA
I_{CEX}	Collector cut-off current	V_{CE}=100V;$V_{BE(OFF)}$=-1.5V T_a=125℃			10 1.0	μA mA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			10	μA
h_{FE-1}	DC current gain	I_C=0.5A ; V_{CE}=5V	40			
h_{FE-2}	DC current gain	I_C=3A ; V_{CE}=5V	40		200	
h_{FE-3}	DC current gain	I_C=5A ; V_{CE}=5V	20			

Switching times

t_{on}	Turn-on time	I_C=5A ;I_{B1}=-I_{B2}=0. 5A V_{CC}≈50V;R_L=10Ω			0.5	μs
t_s	Storage time				1.5	μs
t_f	Fall time				0.5	μs

◆ h_{FE-2} Classifications

M	L	K
40-80	60-120	100-200

PACKAGE OUTLINE

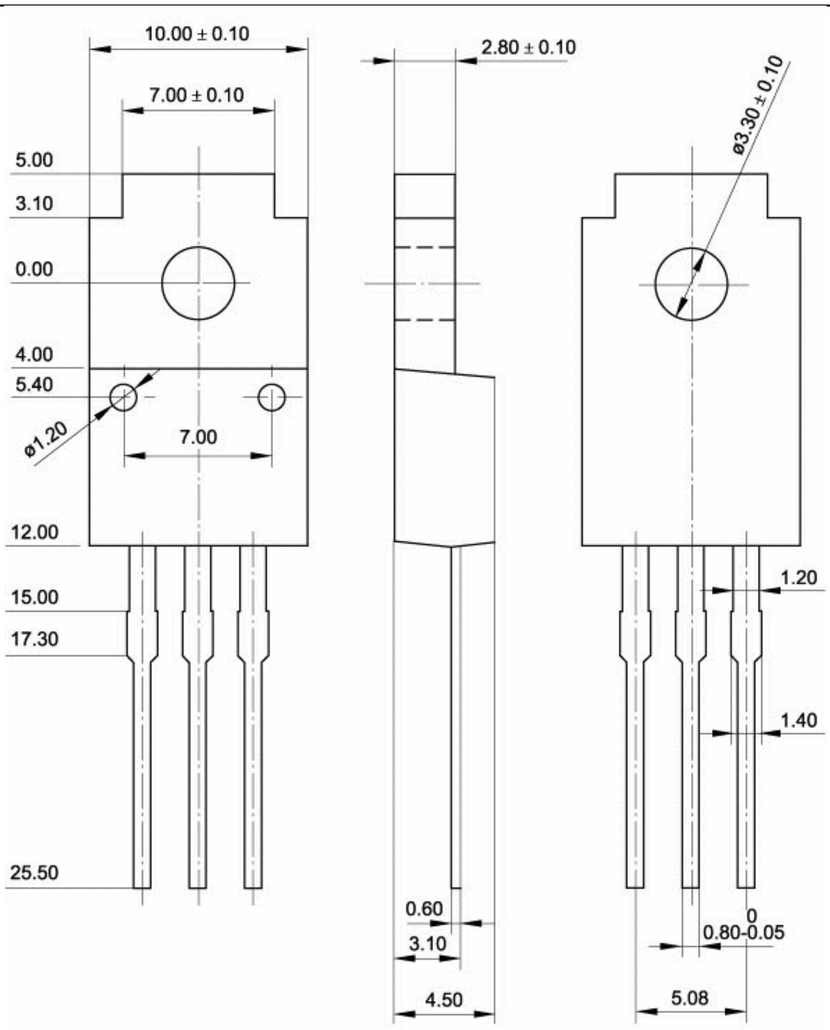

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

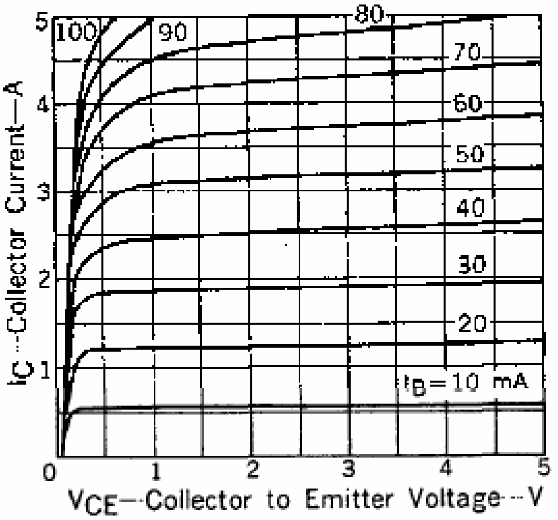

Fig.3 Static Characteristic

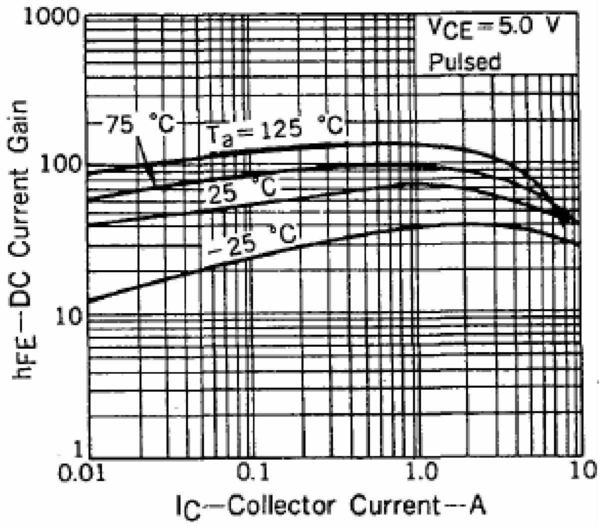

Fig.4 DC current Gain

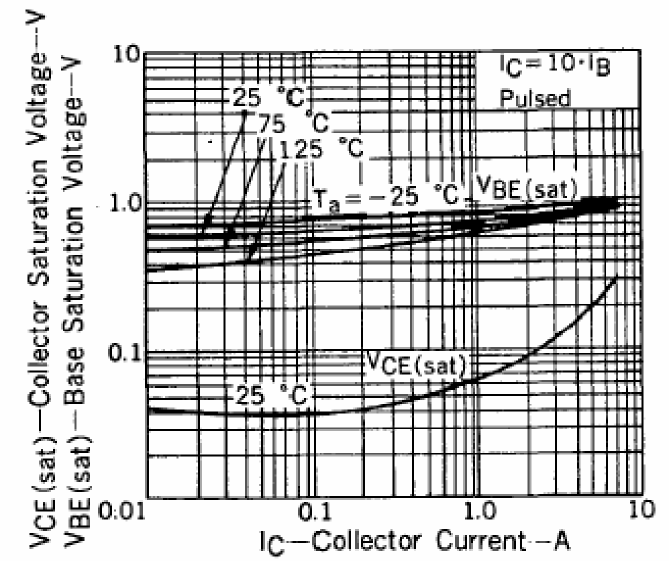

Fig.5 Base-Emitter Saturation Voltage

Collector-Emitter Saturation Voltage

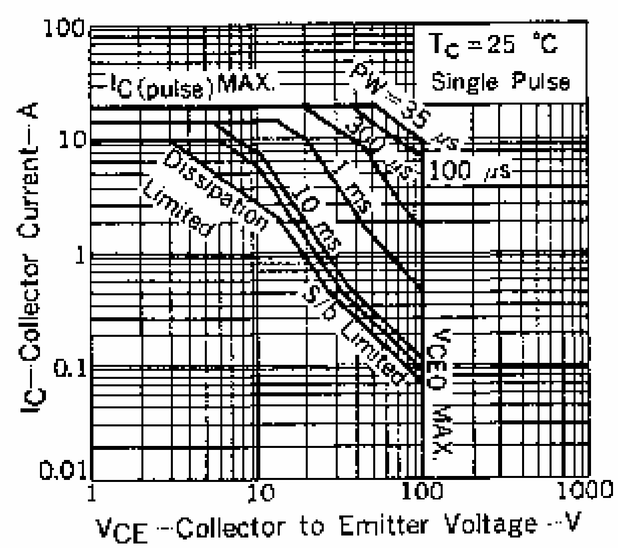

Fig.6 Safe Operating Area