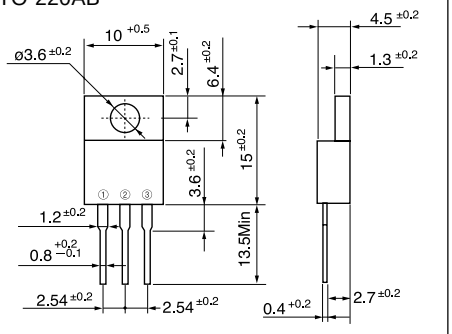
2SC4242

FUJI POWER TRANSISTOR

TRIPLE DIFFUSED PLANER TYPE
HIGH VOLTAGE,HIGH SPEED SWITCHING

■ Outline Drawings

TO-220AB



1 : Base
2 : Collector
3 : Emitter

JEDEC	TO-220AB
EIAJ	SC-46

■ Features

- **High voltage,High speed switching**
- **Low saturation voltage**
- **High reliability**

■ Applications

- **Switching regulators**
- **DC-DC convertor**
- **Solid state relay**
- **General purpose power amplifiers**

■ Maximum ratings and characteristics

● **Absolute maximum ratings (Tc=25°C unless otherwise specified)**

Item	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	450	V
Collector-Emitter voltage	V_{CEO}	400	V
Emitter-Base voltage	V_{EBO}	10	V
Collector current	I_C	7	A
Base current	I_B	2	A
Collector power disspation	P_C	40	W
Operating junction temperature	T_j	+150	℃
Storage temperature	T_{stg}	-55 to +150	℃

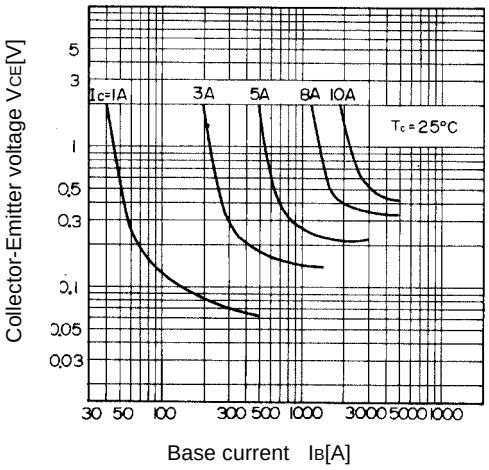
● **Electrical characteristics (T_C =25°C unless otherwise specified)**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CBO}	I_{CBO} = 1mA	450			V
Collector-Emitter voltage	V_{CEO}	I_{CEO} = 0.2A	400			V
Emitter-Base voltage	V_{EBO}	I_{EBO} = 1mA	10	-		V
Collector-Base leakage current	I_{CBO}	V_{CBO} = 450V		-	0.1	mA
Emitter-Base leakage current	I_{EBO}	V_{EBO} = 10V		-	0.1	mA
D.C. current gain	h_{FE}	I_C = 4A, V_{CE} = 5V	10			
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 4A, I_B = 800mA			0.8	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				1.2	V
*1	t_{on}	I_C = 5A, I_{B1} = 1A			1.0	µs
Switching time	t_{stg}	I_{B2} = -2A, R_L = 30 ohm			2.5	µs
	t_f	Pw = 20µs Duty=<2%			0.5	µs

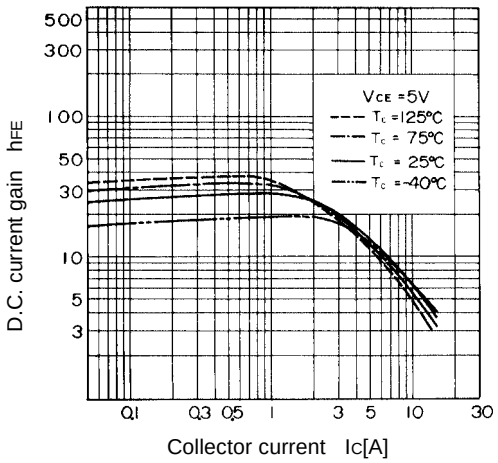
● **Thermal characteristics**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			3.0	°C/W

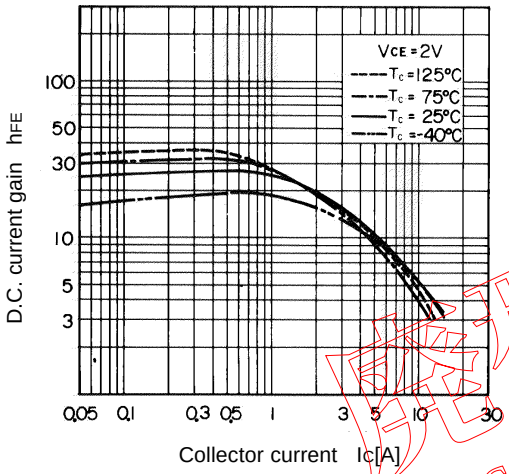
Characteristics



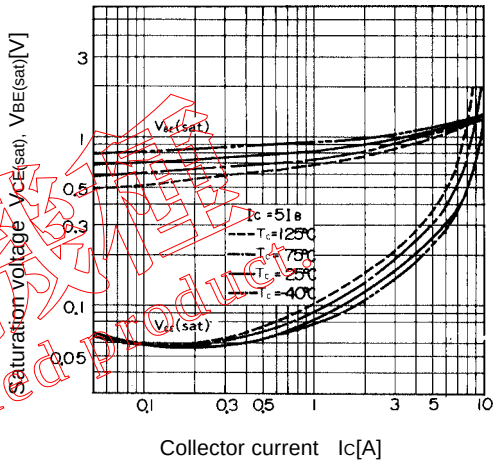
Collector Output Characteristics



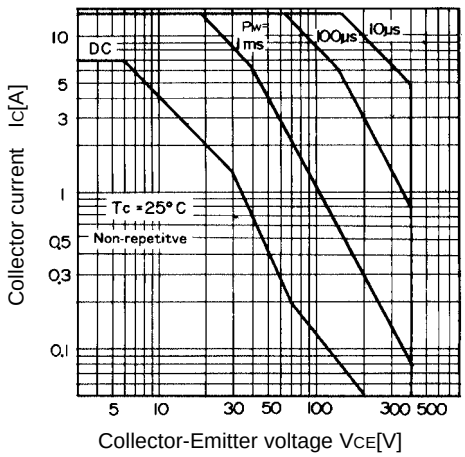
DC Current Gain



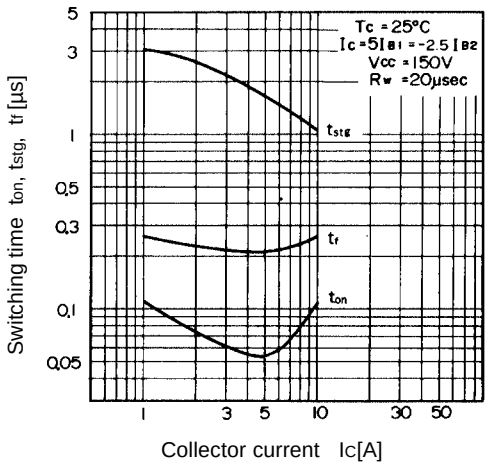
DC Current Gain



Base and Collector Saturation Voltage



Safe Operating Area



Switching Time