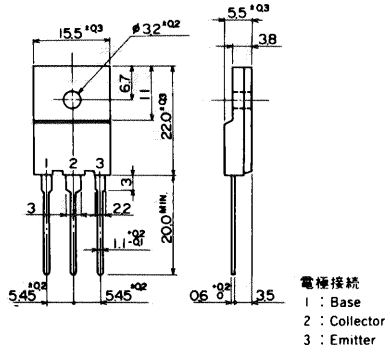
2SC4509

FUJI POWER TRANSISTOR

TRIPLE DIFFUSED PLANER TYPE
HIGH VOLTAGE,HIGH SPEED SWITCHING

■ Outline Drawings

TO-3PF



JEDEC	(TO-3PF)
EIAJ	-

■ Features

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

■ Applications

- **Switching regulators**
- **DC-DC convertors**
- **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}	500	V
Collector-Emitter voltage	V_{CEO}	400	V
Collector-Emitter voltage	$V_{CEO(SUS)}$	-	V
Emitter-Base voltage	V_{EBO}	10	V
Collector current	I_C	10	A
Base current	I_B	3	A
Collector power disspation	P_C	80	W
Operating junction temperature	T_j	+150	℃
Storage temperature	T_{stg}	-55 to +150	℃

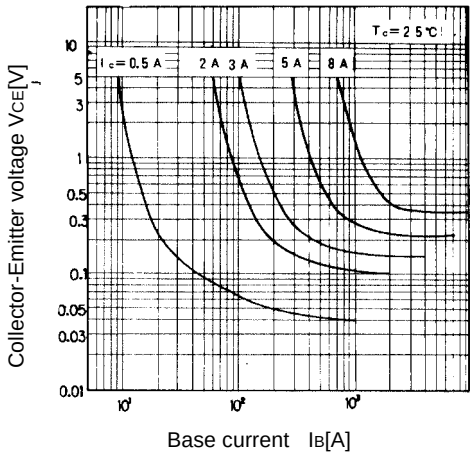
● **Electrical characteristics (T_C =25°C unless otherwise specified)**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CBO}	I_{CBO} = 1mA	500			V
Collector-Emitter voltage	V_{CEO}					V
Collector-Emitter voltage	$V_{CEO(SUS)}$	I_C = 200mA	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 = 1A, V_{CE} = 5V	25		65	
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 4A, I_B = 0.8A			0.8	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				1.2	V
*1 Switching time	t_{on}	I_C = 5A, I_{B1} = 0.5A			1.0	µs
	t_{stg}	I_{B2} = -1A, R_L = 30 ohm			2.5	µs
	t_f	Pw = 20µs Duty=<2%			0.5	µs

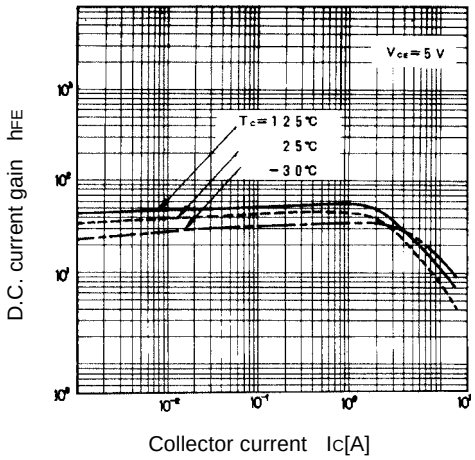
● **Thermal characteristics**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			1.56	°C/W

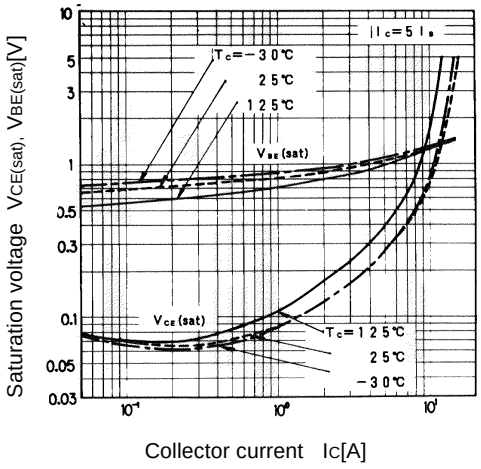
Characteristics



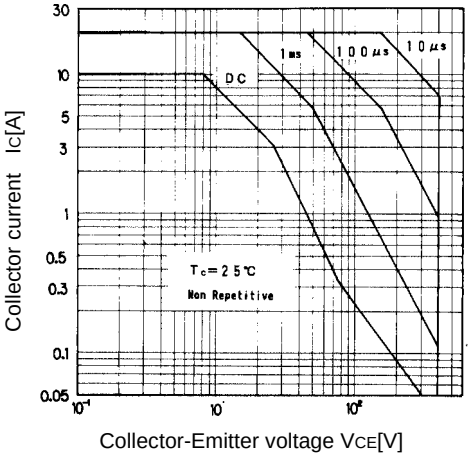
Collector Output Characteristics



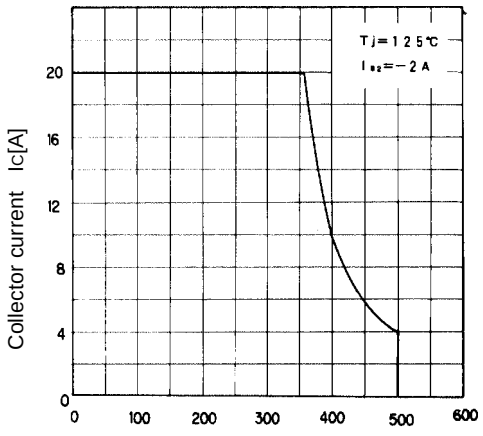
DC Current Gain



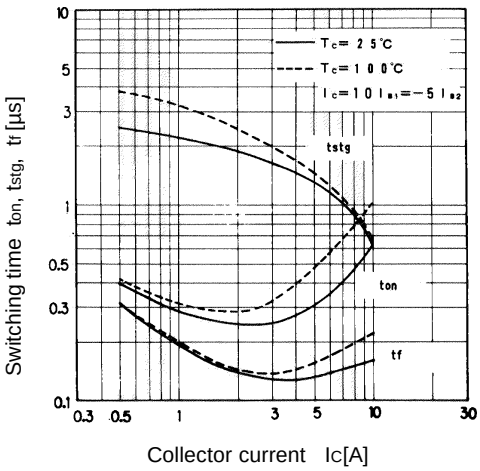
Base and Collector Saturation Voltage



Safe Operating Area

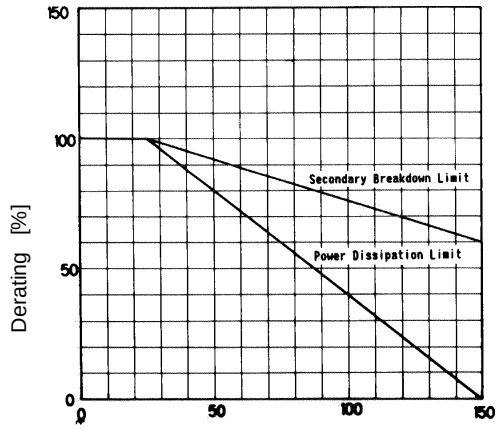


Reverse Biased Safe Operating Area

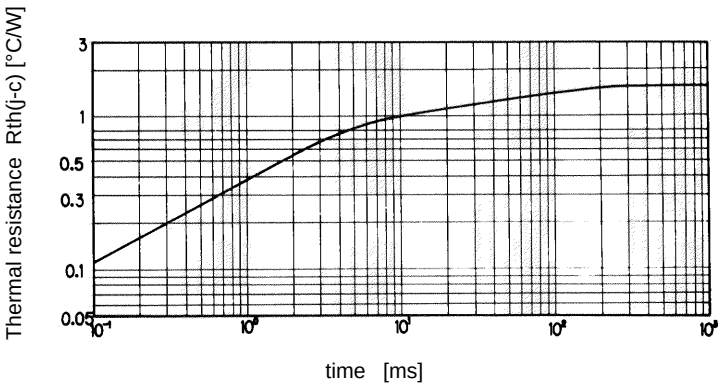


Switching Time

Characteristics



ASO Derating



Transient Thermal Resistance