2SD833

FUJI POWER TRANSISTOR

TRIPLE DIFFUSED PLANER TYPE
HIGH POWER DARLINGTON
GENERL PURPOSE POWER AMPLIFIER

■ Features

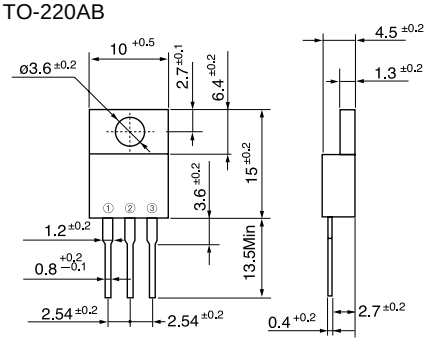
- **High D.C. current gain**
- **Low saturation voltage**
- **High reliability**

■ Applications

- **Audio power amplifiers**
- **Relay & solenoid drivers**
- **Motor controls**
- **General purpose power amplifiers**

■ Outline Drawings

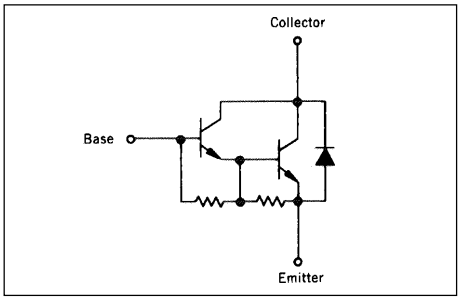
TO-220AB



1 : Base
2 : Collector
3 : Emitter

JEDEC	TO-220AB
EIAJ	SC-46

■ Equivalent Circuit Schematic



■ Maximum ratings and characteristics

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

Item	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	60	V
Collector-Emitter voltage	V_{CEO}	60	V
Collector-Emitter voltage	$V_{CEO(SUS)}$	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	7	A
Base current	I_B	0.2	A
Collector power disspation	P_C	40	W
Operating junction temperature	T_j	+150	℃
Storage temperature	T_{stg}	-55 to +150	℃

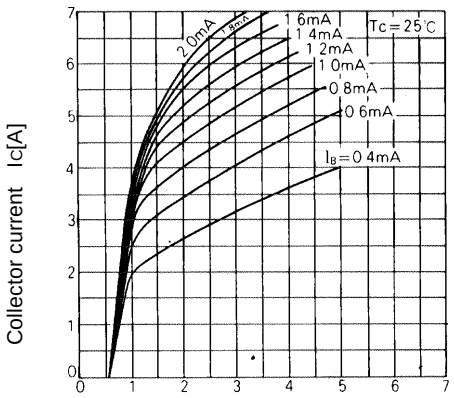
● **Electrical characteristics (T_C =25°C unless otherwise specified)**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CBO}	I_{CBO} = 0.1mA	60			V
Collector-Emitter voltage	V_{CEO}	I_{CEO} = 0.1mA	60			V
Collector-Emitter voltage	$V_{CEO(SUS)}$	I_C = 0.1A	50			V
Emitter-Base voltage	V_{EBO}	I_{EBO} = 3mA	5			V
Collector-Base leakage current	I_{CBO}	V_{CBO} = 60V			0.1	mA
Emitter-Base leakage current	I_{EBO}	V_{EBO} = 5V			3.0	mA
D.C. current gain	h_{FE}	I_C = 3A, V_{CE} = 3V	4000			
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 3A, I_B = 6mA			1.5	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				2.5	V

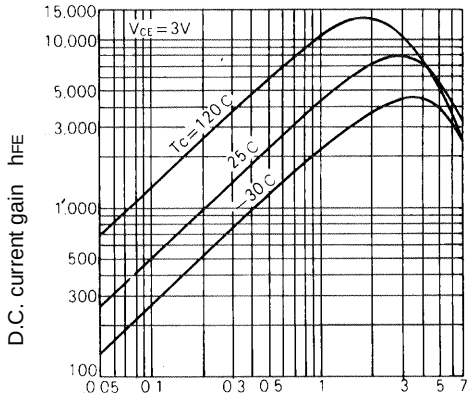
● **Thermal characteristics**

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

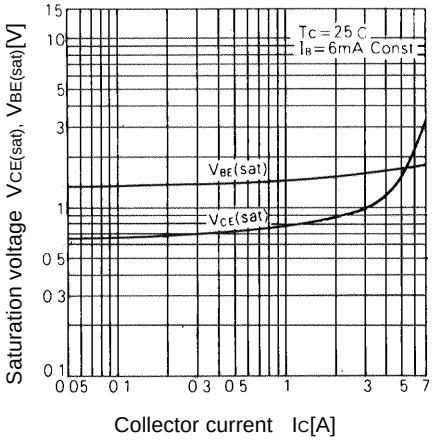
Characteristics



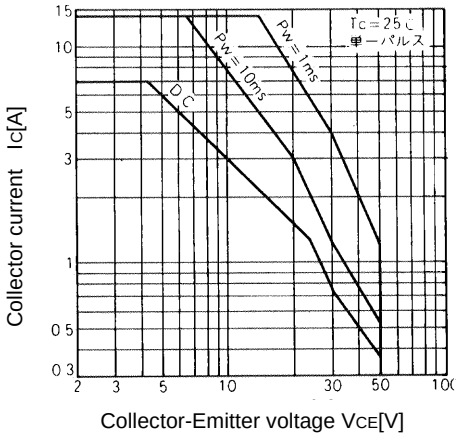
Collector Output Characteristics



DC Current Gain



Base and Collector Saturation Voltage



Safe Operating Area