2SD1072

FUJI POWER TRANSISTOR

TRIPLE DIFFUSED PLANER TYPE
HIGH POWER DARLINGTON
HIGH VOLTAGE , SWITCHING

■ Features

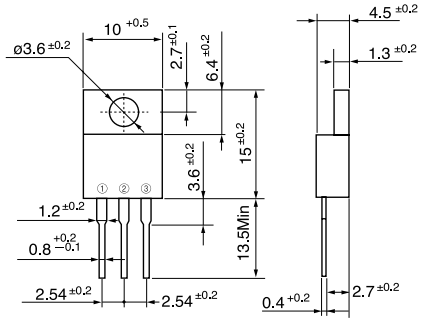
- **High D.C. current gain**
- **High reliability**

■ Applications

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

■ Outline Drawings

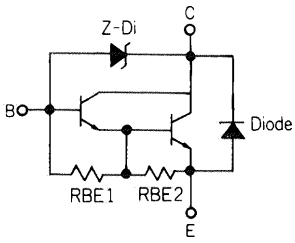
TO-220AB



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}	450	V
Collector-Emitter voltage	V_{CEO}	450	V
Collector-Emitter voltage	$V_{CEO(SUS)}$	350	V
Emitter-Base voltage	V_{EBO}	20	V
Collector current	I_C	5	A
Base current	I_B	0.3	A
Collector power disspation	P_C	60	W
Operating junction temperature	T_j	+150	℃
Storage temperature	T_{stg}	-55 to +150	℃

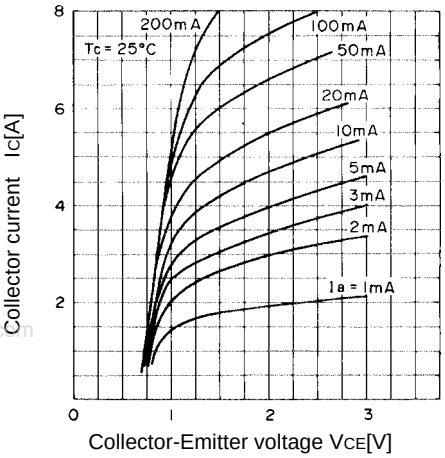
● **Electrical characteristics (T_C =25°C unless otherwise specified)**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CBO}	I_{CBO} = 0.1mA	450			V
Collector-Emitter voltage	V_{CEO}		-			V
Collector-Emitter voltage	$V_{CEO(SUS)}$	I_C = 1A	350			V
Emitter-Base voltage	V_{EBO}	I_{EBO} = 50mA	20			V
Collector-Base leakage current	I_{CBO}	V_{CBO} = 450V			0.1	mA
Emitter-Base leakage current	I_{EBO}	V_{EBO} = 20V			50	mA
D.C. current gain	h_{FE}	I_C = 3A, V_{CE} = 1.5V	500			
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 3A, I_B = 30mA			1.5	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				2.0	V
*1	t_{on}	I_C = 3A, I_{B1} = 30mA			1.5	µs
Switching time	t_{stg}	I_{B2} = -30mA, R_L = 20 ohm			12.0	µs
	t_f	Pw = 20µs, Duty =<2%			6.0	µs

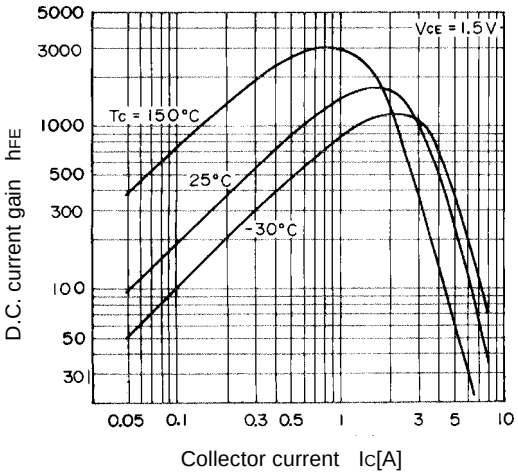
● **Thermal characteristics**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			2.08	℃/W

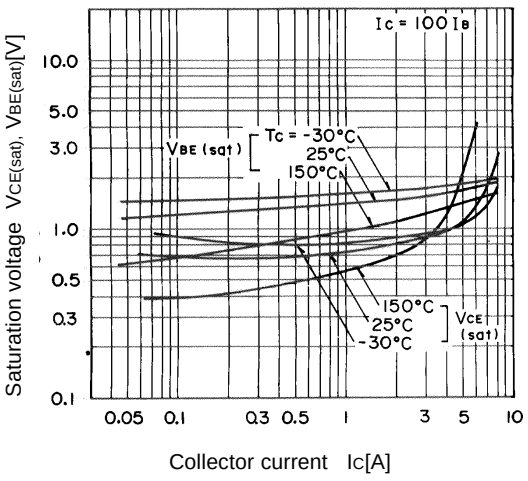
Characteristics



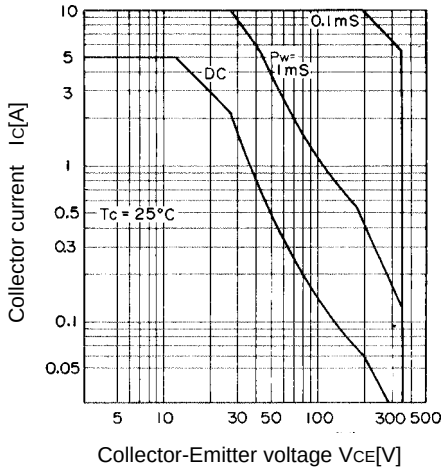
Collector Output Characteristics



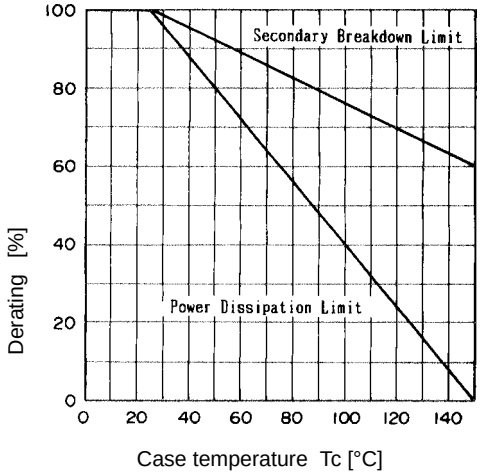
DC Current Gain



Base and Collector Saturation Voltage



Safe Operating Area



ASO Derating

***1 Switching Time Test Circuit**