2SD835

FUJI POWER TRANSISTOR

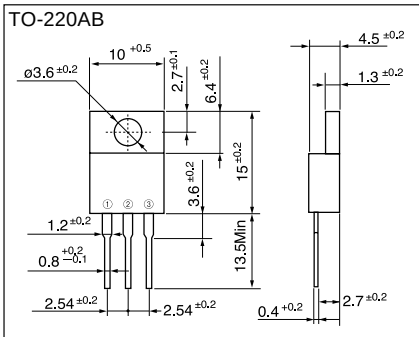
TRIPLE DIFFUSED PLANER TYPE

HIGH POWER DARLINGTON

HIGH VOLTAGE, SWITCHING

■ Outline Drawings

TO-220AB



1 : Base
2 : Collector
3 : Emitter

JEDEC	TO-220AB
EIAJ	SC-46

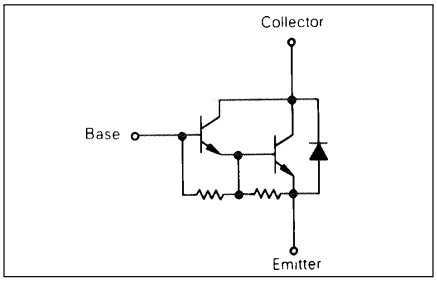
■ Features

- **High D.C. current gain**
- **Low saturation voltage**
- **Excellent safe operating area**
- **High reliability**

■ Applications

- **Electronic ignitor**
- **Relay & solenoid drivers**
- **Switching regulators**
- **Motor controls**

■ 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}	400	V
Collector-Emitter voltage	V_{CEO}	400	V
Collector-Emitter voltage	$V_{CEO(SUS)}$	350	V
Emitter-Base voltage	V_{EBO}	15	V
Collector current	I_C	6	A
Base current	I_B	0.3	A
Collector power disspation	P_C	40	W
Operating junction temperature	T_j	+150	℃
Storage temperature	T_{stg}	-45 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	400			V
Collector-Emitter voltage	V_{CEO}	I_{CEO} = 0.1mA	400			V
Collector-Emitter voltage	$V_{CEO(SUS)}$	I_C = 1A	350			V
Emitter-Base voltage	V_{EBO}	I_{EBO} = 100mA	15			V
Collector-Base leakage current	I_{CBO}	V_{CBO} = 400V			0.1	mA
Emitter-Base leakage current	I_{EBO}	V_{EBO} = 15V			100	mA
D.C. current gain	h_{FE}	I_C = 4A, V_{CE} = 1.5V	400			
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 4A, I_B = 10mA			1.5	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				2.0	V
*1	t_{on}	I_C = 4A, I_{B1} = 40mA			1.0	µs
Switching time	t_{stg}	I_{B2} = -40mA, R_L = 10 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			3.0	°C/W

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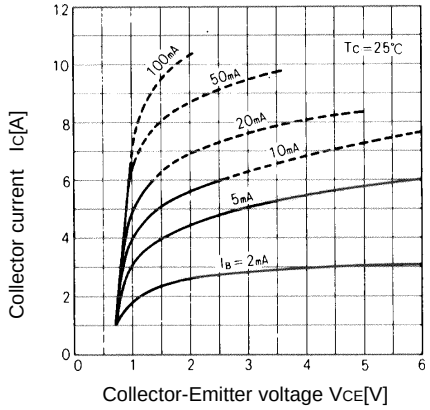
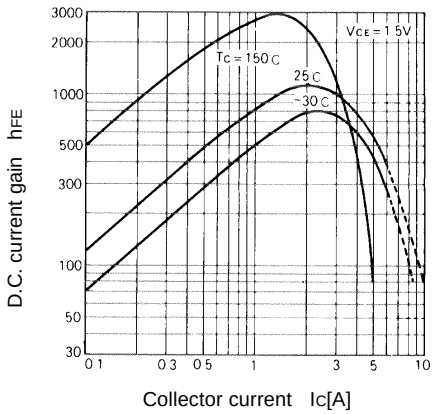
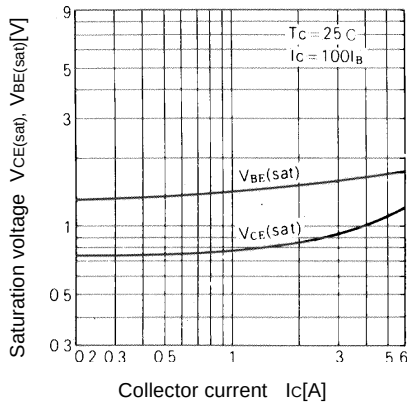
Characteristics



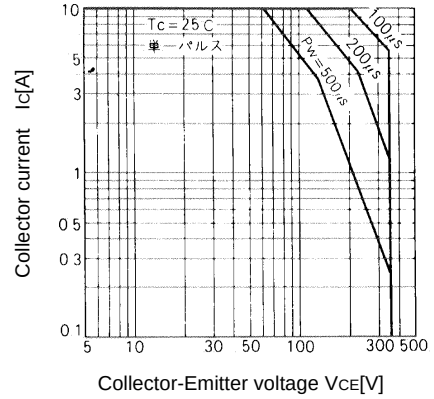
Collector Output Characteristics



DC Current Gain

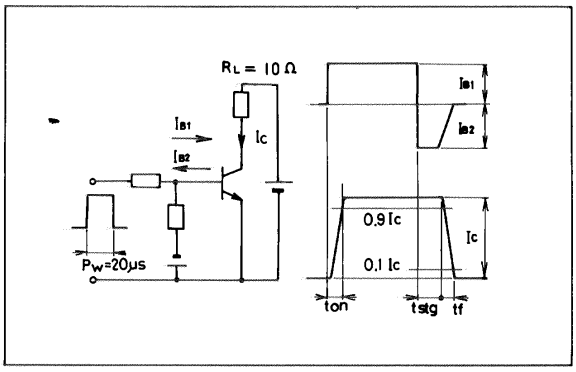


Base and Collector Saturation Voltage



Safe Operating Area

*1 Switching Time Test Circuit



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