New Jersey Semi-Conductor Products, Inc.

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2SD834

TRIPLE DIFFUSED PLANER TYPE
HIGH POWER DARLINGTON
SWITCHING

■ Features

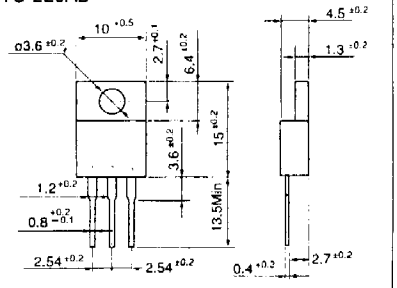
- **High D.C. current gain**
- **Low saturation voltage**
- **Excellent safe operating area**
- **High reliability**

■ Applications

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

■ Outline Drawings

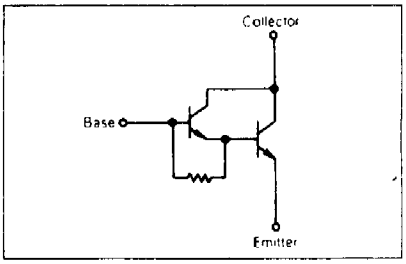
TO-220AB



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}	250	V
Collector-Emitter voltage	V_{CEO}	200	V
Collector-Emitter voltage	$V_{CEO(SUS)}$	180	V
Emitter-Base voltage	V_{EBO}	10	V
Collector current	I_C	4	A
Base current	I_B	0.3	A
Collector power disspation	P_C	25	W
Operating junction temperature	T_j	+150	°C
Storage temperature	T_{stg}	-55 to +150	°C

● **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	250			V
Collector-Emitter voltage	V_{CEO}	I_{CEO} = 10mA	200			V
Collector-Emitter voltage	$V_{CEO(SUS)}$	I_C = 1A	180			V
Emitter-Base voltage	V_{EBO}	I_{EBO} = 10mA	10			V
Collector-Base leakage current	I_{CBO}	V_{CBO} = 250V			0.1	mA
Emitter-Base leakage current	I_{EBO}	V_{EBO} = 10V			10	mA
D.C. current gain	h_{FE}	I_C = 2A, V_{CE} = 2V	1500	3000		
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	I_C = 2A, I_B = 2mA			1.5	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				2.0	V
*1 Switching time	t_{on}	I_C = 2A, I_{B1} = 5mA			1.7	μs
	t_{stg}	I_{B2} = -5mA, R_L = 10 ohm			15.0	μs
	t_f	Pw = 20μs Duty=<2%			18.0	μs

● **Thermal characteristics**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			5.0	°C/W

Quality Semi-Conductors