

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

Maximum ratings and characteristics

Absolute maximum ratings ($T_c=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Ratings	Unit
Collector-Base voltage	V_{CB0}	250	V
Collector-Emitter voltage	V_{CE0}	200	V
Collector-Emitter voltage	$V_{CE0(SUS)}$	180	V
Emitter-Base voltage	V_{EB0}	10	V
Collector current	I_C	4	A
Base current	I_B	0.3	A
Collector power dissipation	P_C	25	W
Operating junction temperature	T_j	+150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

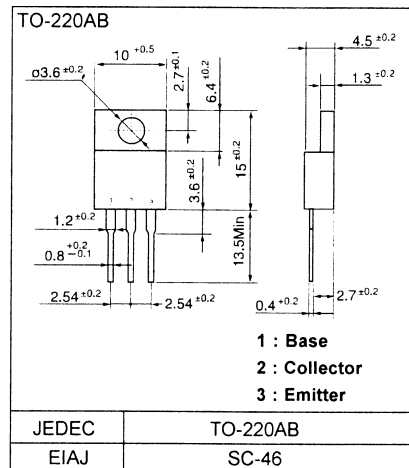
Electrical characteristics ($T_c = 25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CB0}	$I_{CB0} = 0.1\text{mA}$	250			V
Collector-Emitter voltage	V_{CE0}	$I_{CE0} = 10\text{mA}$	200			V
Collector-Emitter voltage	$V_{CE0(SUS)}$	$I_C = 1\text{A}$	180			V
Emitter-Base voltage	V_{EB0}	$I_{EB0} = 10\text{mA}$	10			V
Collector-Base leakage current	I_{CB0}	$V_{CB0} = 250\text{V}$			0.1	mA
Emitter-Base leakage current	I_{EB0}	$V_{EB0} = 10\text{V}$			10	mA
D.C. current gain	h_{FE}	$I_C = 2\text{A}, V_{CE} = 2\text{V}$	1500	3000		
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	$I_C = 2\text{A}, I_B = 2\text{mA}$			1.5	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				2.0	V
*1	t_{on}	$I_C = 2\text{A}, I_{B1} = 5\text{mA}$			1.7	μs
Switching time	t_{stg}	$I_{B2} = -5\text{mA}, R_L = 10\text{ ohm}$			15.0	μs
	t_f	$P_w = 20\mu\text{s}$ Duty= $\leq 2\%$			18.0	μs

Thermal characteristics

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

Outline Drawings



Equivalent Circuit Schematic

