

TRIPLE DIFFUSED PLANER TYPE
POWER DARLINGTON
GENERAL 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

■ **Maximum ratings and characteristics**

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

Item	Symbol	Ratings	Unit
Collector-Base voltage	V _{CB0}	60	V
Collector-Emitter voltage	V _{CE0}	60	V
Collector-Emitter voltage	V _{CE0(SUS)}	50	V
Emitter-Base voltage	V _{EBO}	6	V
Collector current	I _c	7	A
Base current	I _b	0.2	A
Collector power dissipation	P _c	30	W
Operating junction temperature	T _j	+150	°C
Storage temperature	T _{stg}	-55 to +150	°C

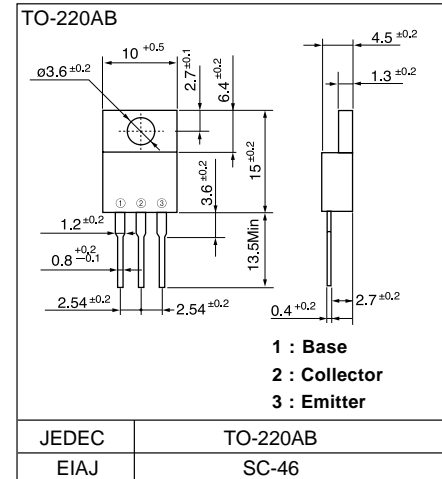
- **Electrical characteristics (Tc =25°C unless otherwise specified)**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V _{CB0}	I _{cBO} = 0.1mA	60			V
Collector-Emitter voltage	V _{CE0}	I _{cEO} = 0.1mA	60			V
Collector-Emitter voltage	V _{CE0(SUS)}	I _c = 0.1A	50			V
Emitter-Base voltage	V _{EBO}	I _{EBO} = 50mA	6			V
Collector-Base leakage current	I _{cBO}	V _{CB0} = 60V			0.1	mA
Emitter-Base leakage current	I _{EBO}	V _{EBO} = 6V			50	mA
D.C. current gain	h _{FE}	I _c = 3A, V _{CE} = 1.5V	800	4000		
Collector-Emitter saturation voltage	V _{CE(Sat)}	I _c = 3A, I _b = 7.5mA			1.5	V
Base-Emitter saturation voltage	V _{BE(Sat)}				2.5	V

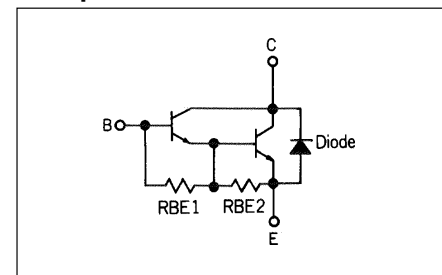
- **Thermal characteristics**

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	R _{th(j-c)}	Junction to case			4.0	°C/W

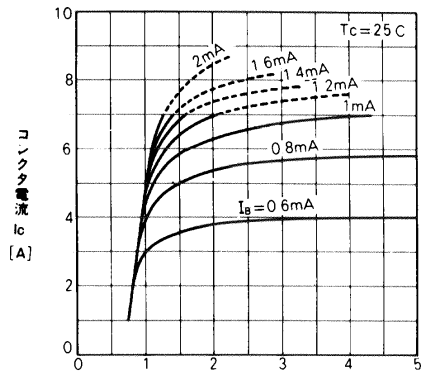
■ **Outline Drawings**



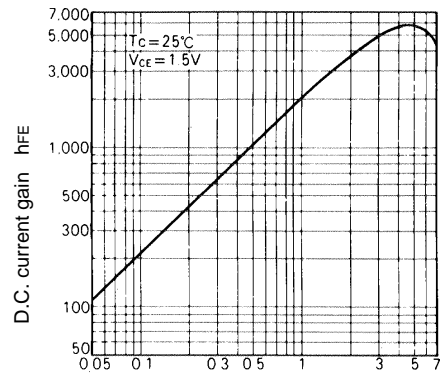
■ **Equivalent Circuit Schematic**



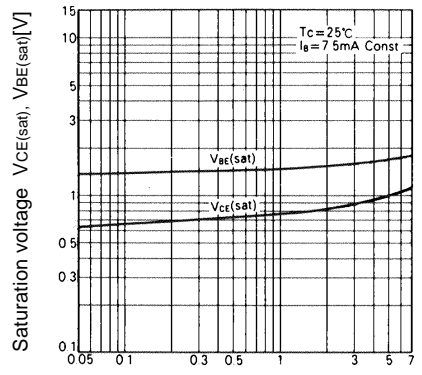
Characteristics



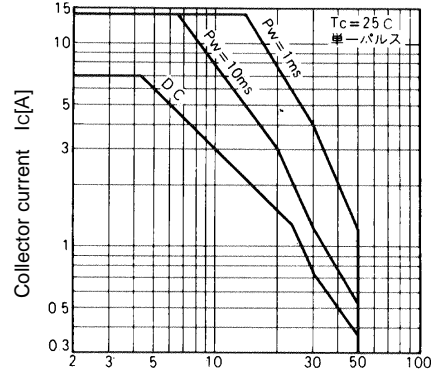
Collector-Emittor voltage V_{ce} [V]
Collector Output Characteristics



D.C. current gain h_{FE}
DC Current Gain



Saturation voltage $V_{ce(sat)}$, $V_{be(sat)}$ [V]
Base and Collector Saturation Voltage



Collector current I_c [A]
Safe Operating Area