

TRIPLE DIFFUSED PLANER TYPE  
HIGH VOLTAGE, HIGH SPEED SWITCHING

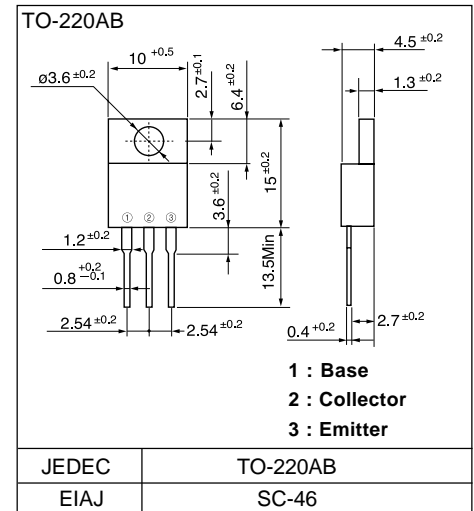
## ■ Features

- High voltage, High speed switching
- High reliability

## ■ Applications

- Switching regulators
- DC-DC convertor
- Solids state relay
- General purpose power amplifiers

## ■ Outline Drawings



## ■ Maximum ratings and characteristics

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

Item	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CB0}$	900	V
Collector-Emitter voltage	$V_{CE0}$	800	V
Collector-Emitter voltage	$V_{CE0(SUS)}$	-	V
Emitter-Base voltage	$V_{EB0}$	10	V
Collector current	$I_C$	3	A
Base current	$I_B$	1	A
Collector power dissipation	$P_C$	40	W
Operating junction temperature	$T_j$	+150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

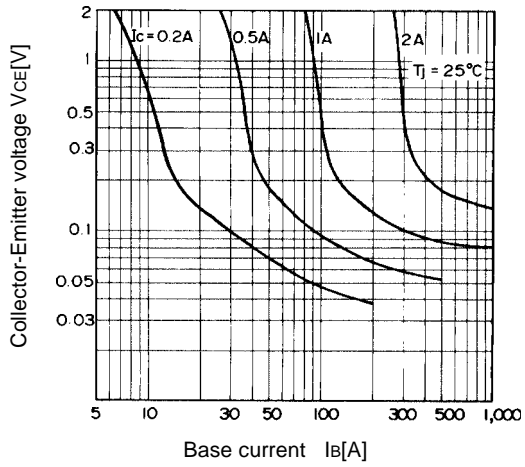
### ● Electrical characteristics ( $T_c = 25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	$V_{CB0}$	$I_{CB0} = 1\text{mA}$	900			V
Collector-Emitter voltage	$V_{CE0}$	$I_{CE0} = 10\text{mA}$	800			V
Collector-Emitter voltage	$V_{CE0(SUS)}$	$I_C = A$	-	-		V
Emitter-Base voltage	$V_{EB0}$	$I_{EB0} = 1\text{mA}$	10	-		V
Collector-Base leakage current	$I_{CB0}$	$V_{CB0} = 900\text{V}$		-	1.0	mA
Emitter-Base leakage current	$I_{EB0}$	$V_{EB0} = 10\text{V}$		-	1.0	mA
D.C. current gain	$h_{FE}$	$I_C = 1\text{A}$ , $V_{CE} = 5\text{V}$	10			
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	$I_C = 1\text{A}$ , $I_B = 200\text{mA}$			1.0	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				1.5	V
*1	$t_{on}$	$I_C = 2\text{A}$ , $I_{B1} = 400\text{mA}$			1.0	$\mu\text{s}$
Switching time	$t_{stg}$	$I_{B2} = -800\text{mA}$ , $R_L = 150\text{ohm}$			4.0	$\mu\text{s}$
	$t_f$	$P_w = 20\mu\text{s}$ Duty= $<2\%$			0.8	$\mu\text{s}$

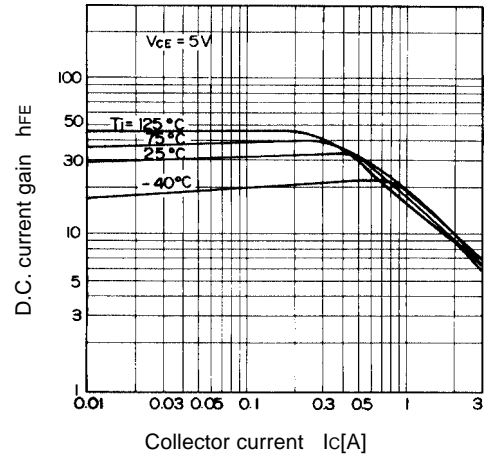
### ● Thermal characteristics

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			3.0	$^\circ\text{C/W}$

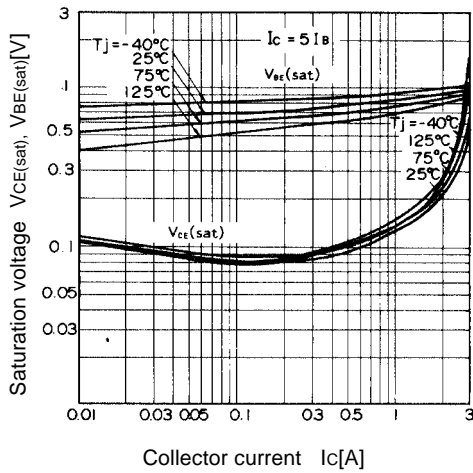
Characteristics



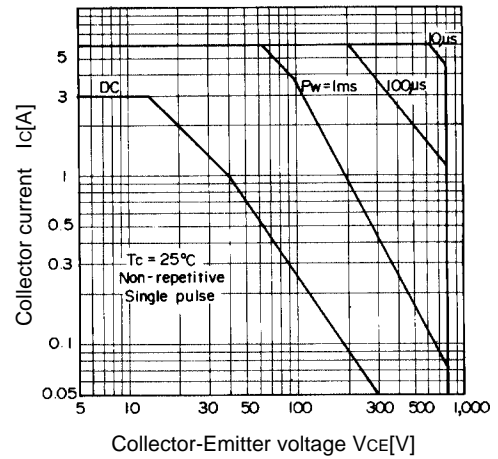
Collector Output Characteristics



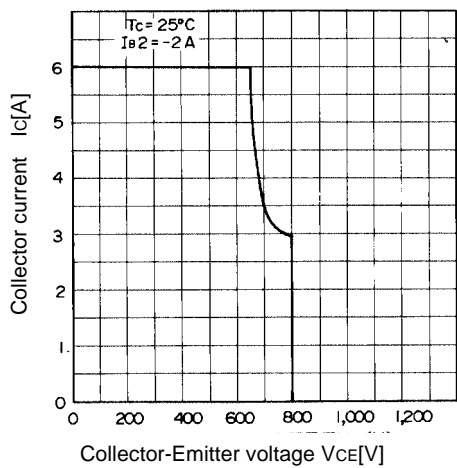
DC Current Gain



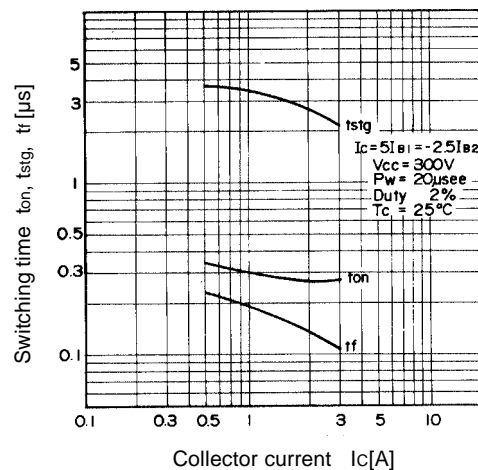
Base and Collector Saturation Voltage



Safe Operating Area

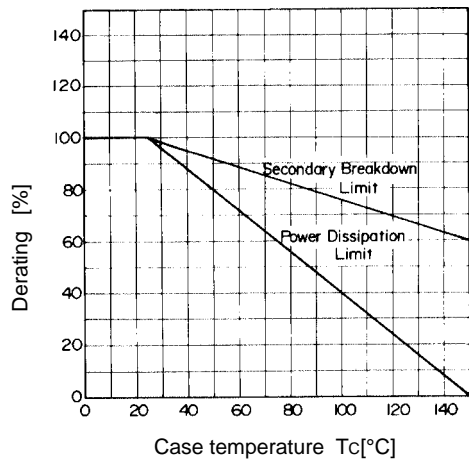


Reverse Biased Safe Operating Area

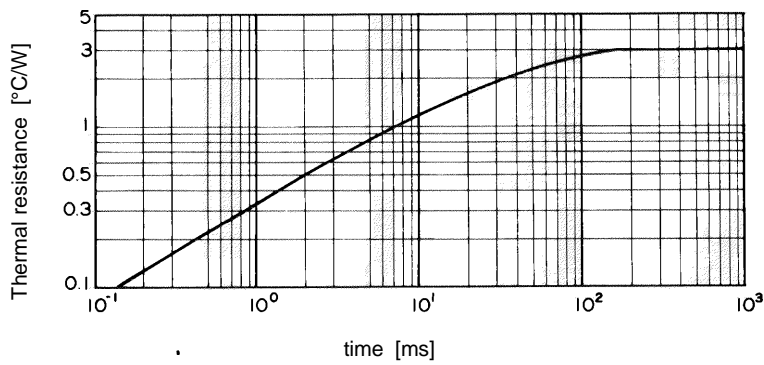


Switching Time

■ Characteristics



ASO Derating



Transient Thermal Resistance

\*1 Switching Time Test Circuit

