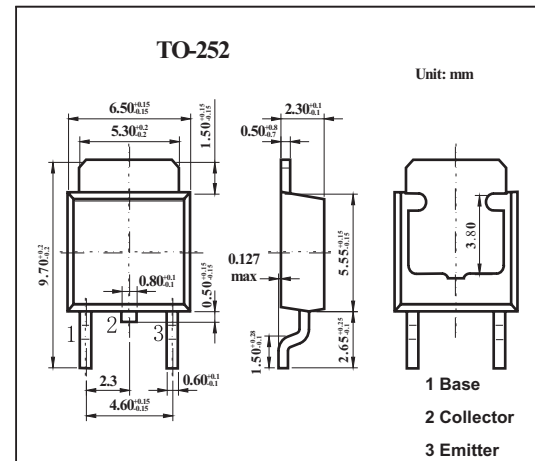


## High-voltage Switching Transistor

## 2SA1875

## ■ Features

- High  $f_T$  :  $f_T=400\text{MHz}(\text{typ})$ .
- High breakdown voltage :  $V_{CE0} \geq 200\text{V}(\text{min})$ .
- Large current capacitance.
- Adoption of FBET process.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-to-Base Voltage	$V_{CB0}$	-200	V
Collector-to-Emitter Voltage	$V_{CE0}$	-200	V
Emitter-to-Base Voltage	$V_{EB0}$	-3	V
Collector Current	$I_C$	-300	mA
Collector Current (Pulse)	$I_{CP}$	-600	mA
Base Current	$I_B$	-30	mA
Collector Dissipation $T_c=25^\circ\text{C}$	$P_C$	0.8	W
		12	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to 150	$^\circ\text{C}$

**2SA1875**

## ■ Electrical Characteristics Ta = 25°C unless otherwise stated

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector Cutoff Current	ICBO	V <sub>CB</sub> =-150V, I <sub>E</sub> =0			-0.1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =-2V, I <sub>C</sub> =0			-1.0	μA
DC Current Gain	hFE	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA	60		320	
		V <sub>CE</sub> =-10V, I <sub>C</sub> =-250mA	20			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-100mA		400		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-30V, f=1MHz		5.0		pF
Reverse Transfer Capacitance	C <sub>re</sub>	V <sub>CB</sub> =-30V, f=1MHz		4.2		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-1.0	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-1	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-200			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, R <sub>BE</sub> =∞	-200			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-100μA, I <sub>C</sub> =0	-3			V

## ■ hFE Classification

Rank	D	E	F
hFE	60 to 120	100 to 200	160 to 320