

# Silicon Epitaxial Base NPN Transistor

TOP-3 Package (See Page 36 For Dimensions)

T-33-13  
T-33-21
**2SA1061 (PNP)**  
**2SC2485 (NPN)**

## 2SA1061 (PNP)

### Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Collector-Base Voltage	-V <sub>CB0</sub>	100	V
Collector-Emitter Voltage	-V <sub>CE0</sub>	100	V
Emitter-Base Voltage	-V <sub>EB0</sub>	5	V
Collector Current	-I <sub>C</sub>	6	A
Peak Collector Current	-I <sub>CM</sub>	10	A
Collector Power Dissipation	P <sub>C</sub> *	70	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

\*T<sub>C</sub>=25°C
**High Power Audio Frequency Amplifier**  
**Complementary Pair with 2SC2485**
**Feature:**

- High collector power dissipation: 70W(T<sub>C</sub>=25°C)

**\*\*hFE Classification**

hFE	100~200	60~120	40~80
Class	P	Q	R

### Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	-I <sub>CBO</sub>	-V <sub>CB</sub> =100V, I <sub>E</sub> =0			50	μA
Emitter Cutoff Current	-I <sub>EB0</sub>	-V <sub>EB</sub> =3V, I <sub>C</sub> =0			50	μA
DC Current Gain	hFE1	-V <sub>CE</sub> =5V, -I <sub>C</sub> =0.2A	20			
	hFE2**	-V <sub>CE</sub> =5V, -I <sub>C</sub> =1.0A	40		220	V
	hFE3	-V <sub>CE</sub> =5V, -I <sub>C</sub> =4A	20			
Base Emitter Voltage	-V <sub>BE</sub>	-V <sub>CE</sub> =5V, -I <sub>C</sub> =4A			1.8	V
Collector-Emitter Saturation Voltage	-V <sub>CE(sat)</sub>	-I <sub>C</sub> =4A, -I <sub>B</sub> =0.4A			2.0	V
Gain Bandwidth Product	f <sub>T</sub>	-V <sub>CE</sub> =5V, -I <sub>C</sub> =0.5A		20		MHz

## 2SC2485 (NPN)

### Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	100	V
Collector-Emitter Voltage	V <sub>CE0</sub>	100	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	6	A
Peak Collector Current	I <sub>CM</sub>	10	A
Collector Power Dissipation	P <sub>C</sub> *	70	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

\*T<sub>C</sub>=25°C
**High Power Audio Frequency Amplifier**  
**Complementary Pair with 2SA1061**
**Feature:**

- High collector power dissipation: 70W(T<sub>C</sub>=25°C)

**\*\*hFE Classification**

hFE	100~200	60~120	40~80
Class	P	Q	R

### Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =100V, I <sub>E</sub> =0			50	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0			50	μA
DC Current Gain	hFE1	V <sub>CE</sub> =5V, I <sub>C</sub> =0.2A	20			
	hFE2**	V <sub>CE</sub> =5V, I <sub>C</sub> =1.0A	40		220	V
	hFE3	V <sub>CE</sub> =5V, I <sub>C</sub> =4A	20			
Base Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =4A			1.8	V
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =4A, I <sub>B</sub> =0.4A			2.0	V
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =0.5A		20		MHz

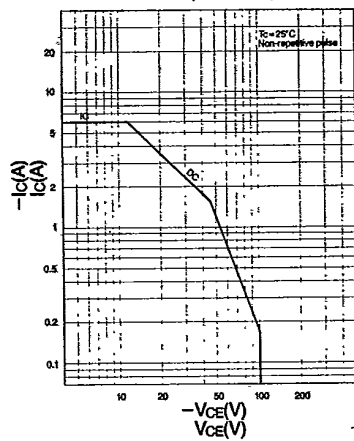
T-33-13

T-33-21

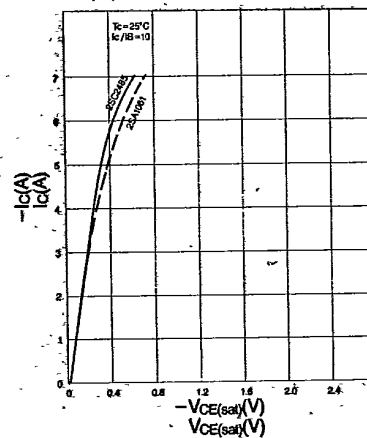
2SA1061 (PNP)  
2SC2485 (NPN)

## Typical Characteristics

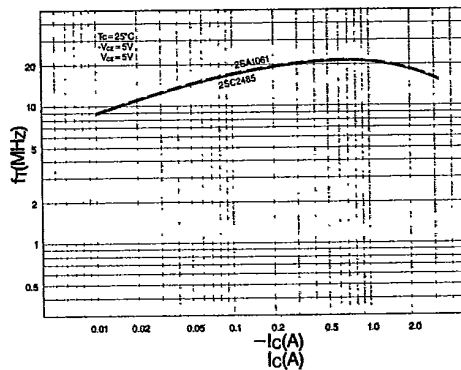
Area of Safe Operation (ASO) ( $T_c = 25^\circ\text{C}$ )



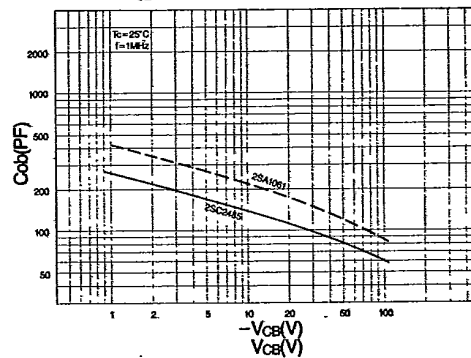
$V_{ce(sat)}$  vs.  $I_c$  characteristics



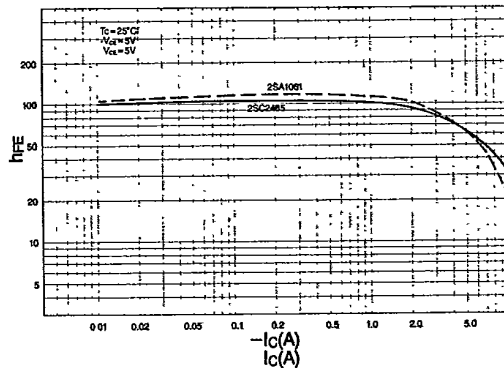
$f_T$  vs.  $I_c$  characteristics



$C_{ob}$  vs.  $V_{cb}$  characteristics



$h_{FE}$  vs  $I_c$  characteristics



$V_{BE}$  vs.  $I_c$  characteristics

