



## 2SA1701/2SC4481

### Low-Frequency General-Purpose Amplifier Applications

#### Applications

- AF power amplifier, medium-speed switching, small-sized motor driver applications.

#### Features

- Large current capacity.
- Low collector-to-emitter saturation voltage.

( ) : 2SA1701

#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)15	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)15	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)5	V
Collector Current	$I_C$		(-)1.5	A
Collector Current (Pulse)	$I_{CP}$		(-)3	A
Collector Dissipation	$P_C$		0.9	W
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

##### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CB0}$	$V_{CB} = (-)12\text{V}, I_E = 0$			(-)100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2\text{V}, I_C = (-)50\text{mA}$	140*		560*	
	$h_{FE2}$	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	70			

\* : 2SA1701/2SC4481 are classified by 50mA  $h_{FE}$  as follows :

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Rank	S	T	U
$h_{FE}$	140 to 280	200 to 400	280 to 560

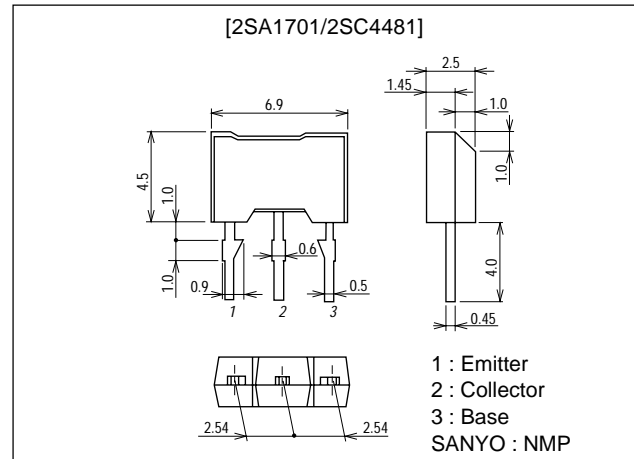
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#### Package Dimensions

unit:mm

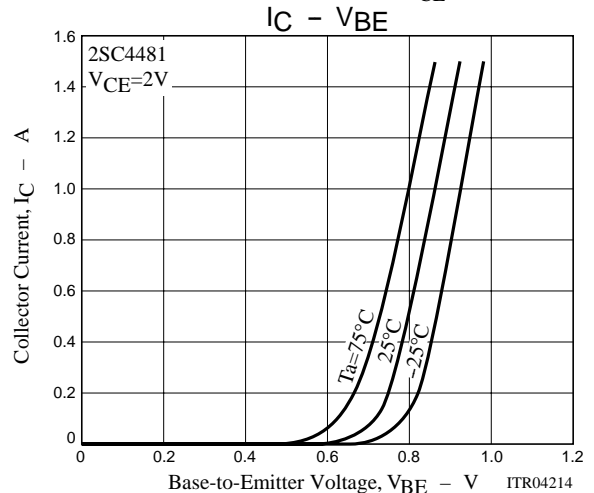
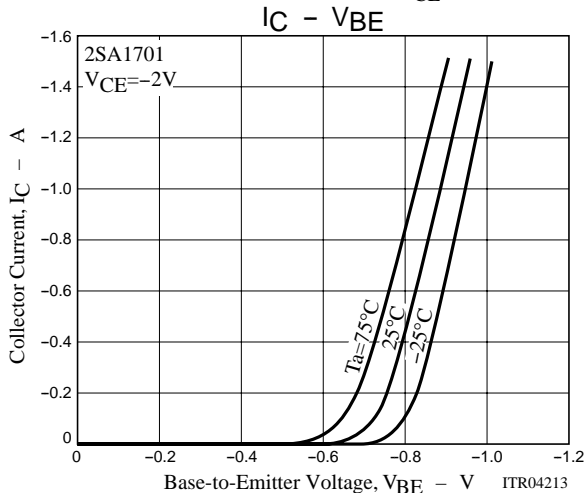
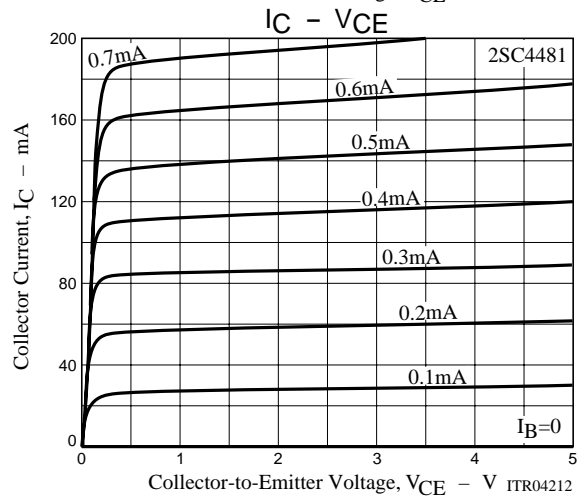
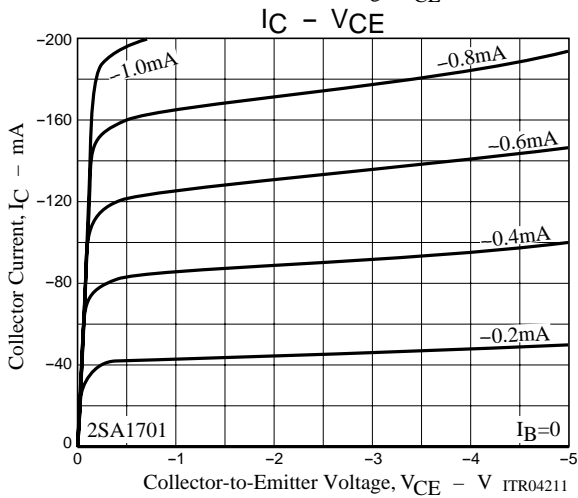
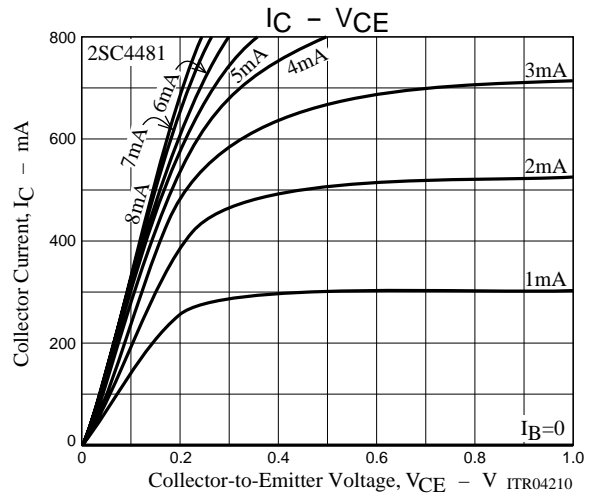
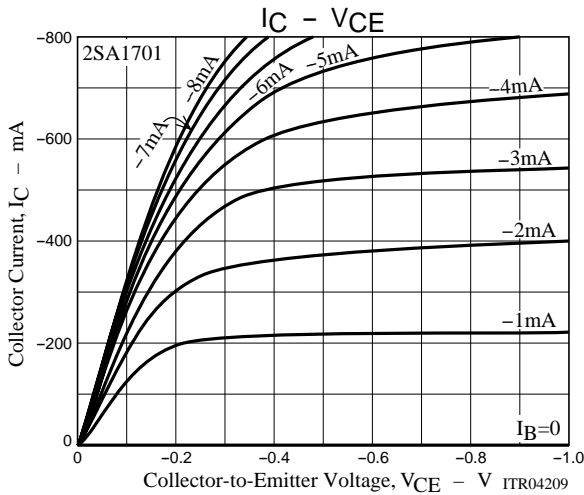
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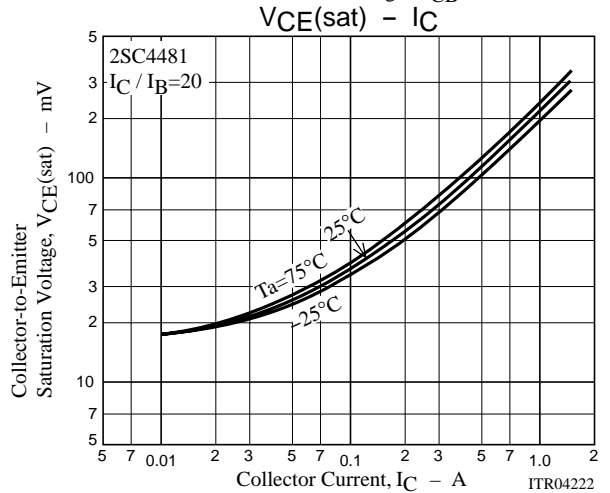
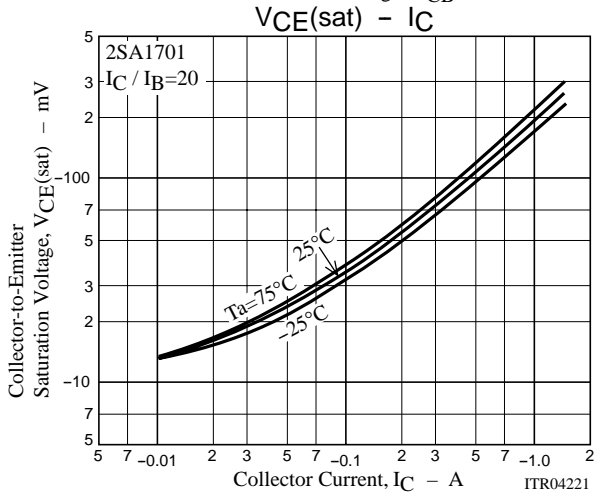
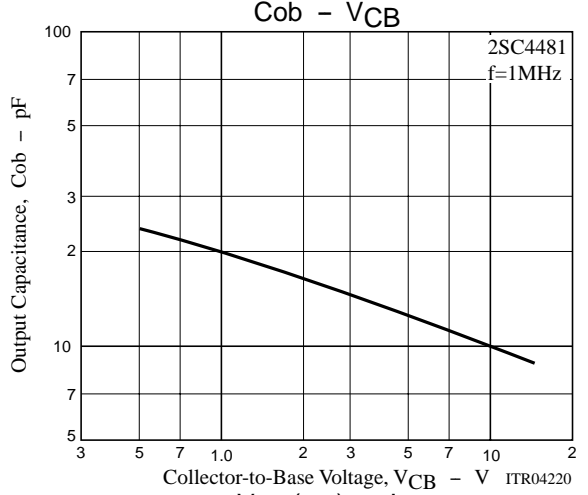
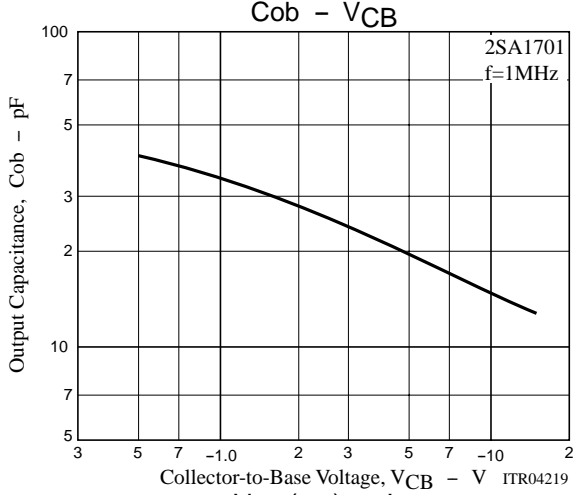
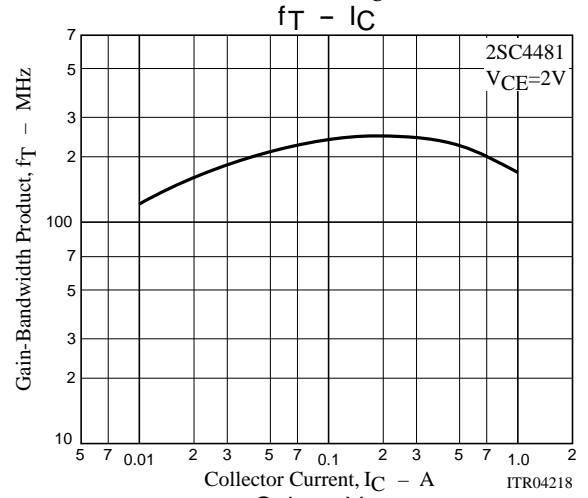
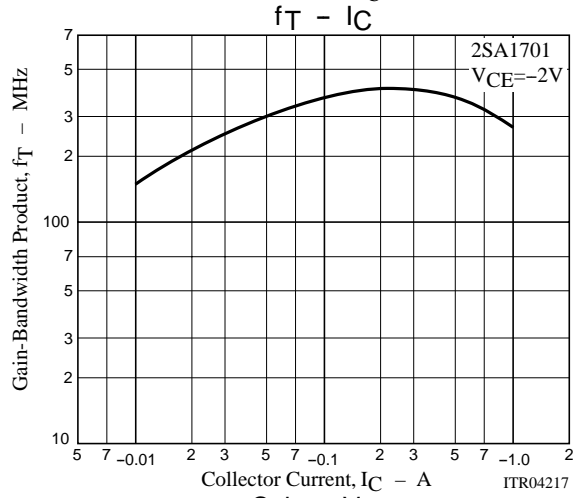
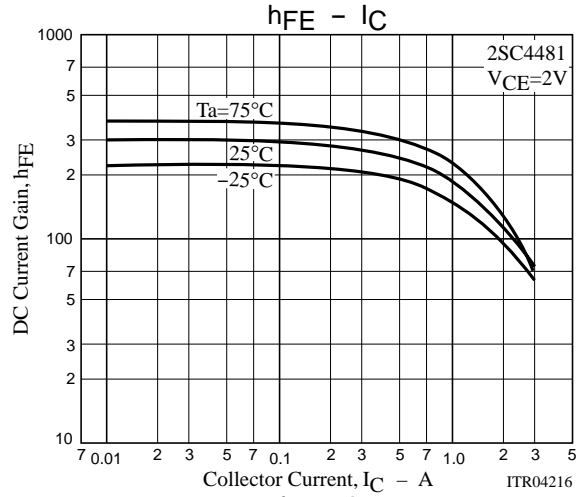
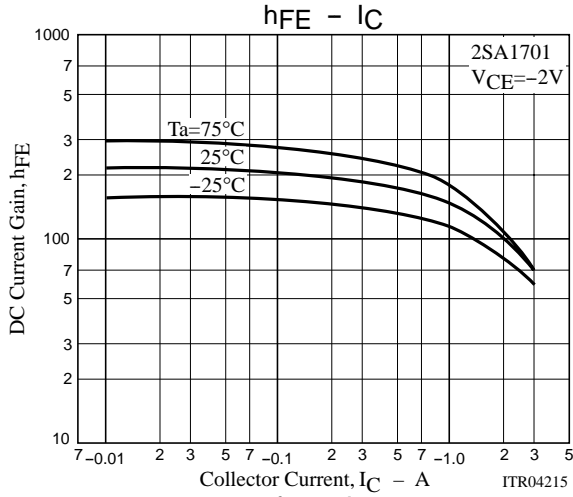
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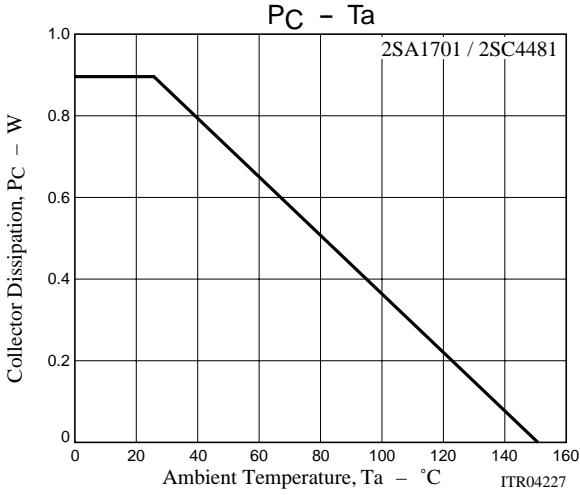
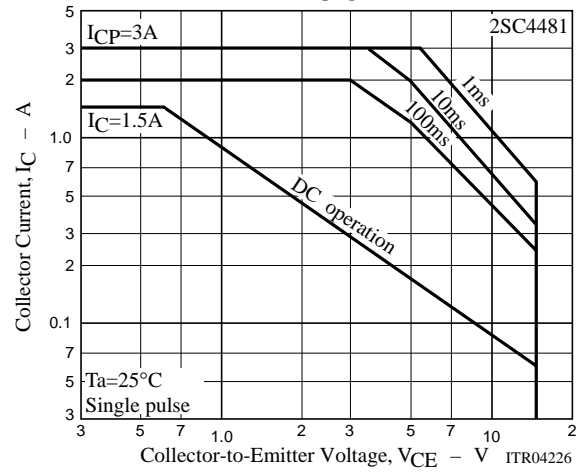
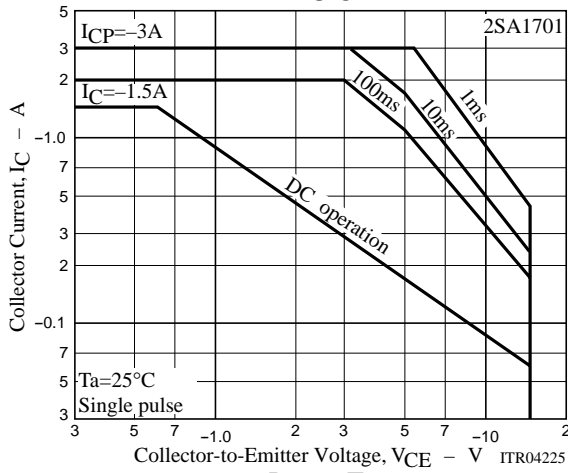
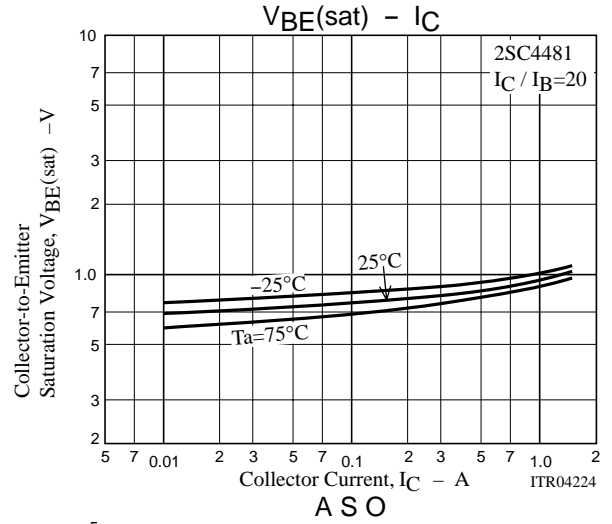
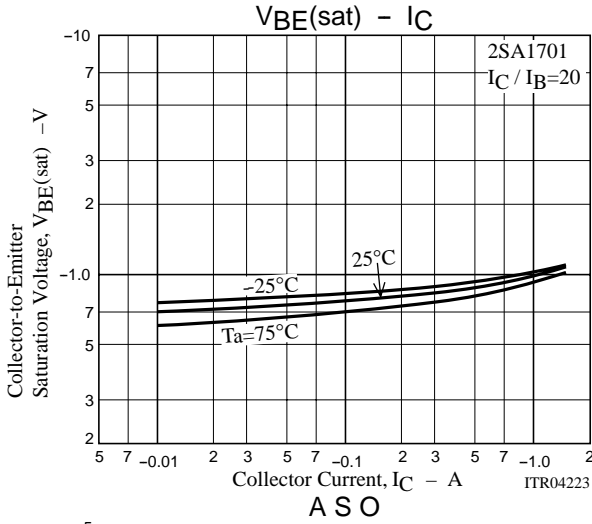
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)2V, I_C=(-)50mA$		(300)		MHz
				200		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)5mA, I_B=(-)0.5mA$		(-10)	(-25)	mV
	$V_{CE(sat)2}$	$I_C=(-)400mA, I_B=(-)20mA$		(-100)	(-200)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)400mA, I_B=(-)20mA$		(-0.9)	(-1.2)	V
Output Capacitance	$C_{ob}$	$V_{BC}=(-)10V, f=1MHz$		(15)10		pF
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-15)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-15)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-5)			V



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