

## 2SA1960

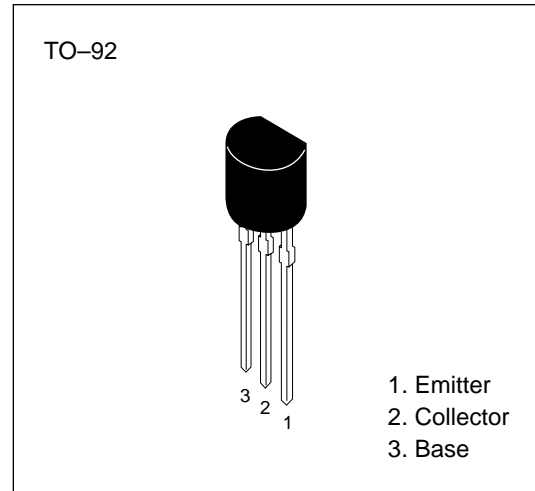
### Silicon NPN Epitaxial Transistor

#### Application

- Wide band video output amplifier for color CRT monitor.
- High frequency high voltage amplifier.
- High speed power switching.
- Complementary pair with 2SC5225.

#### Features

- High voltage large current operation.  
 $V_{CEO} = -80\text{ V}$ ,  $I_C = -300\text{ mA}$
- High  $f_T$ .  
 $f_T = 1.3\text{ GHz}$
- Small output capacitance.  
 $C_{ob} = 2.9\text{ pF}$



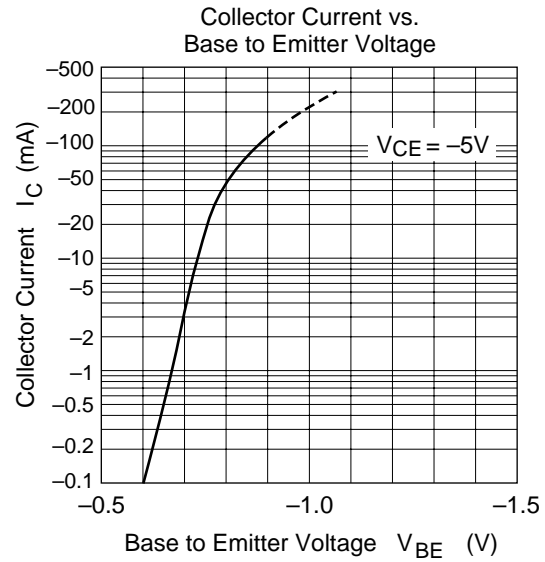
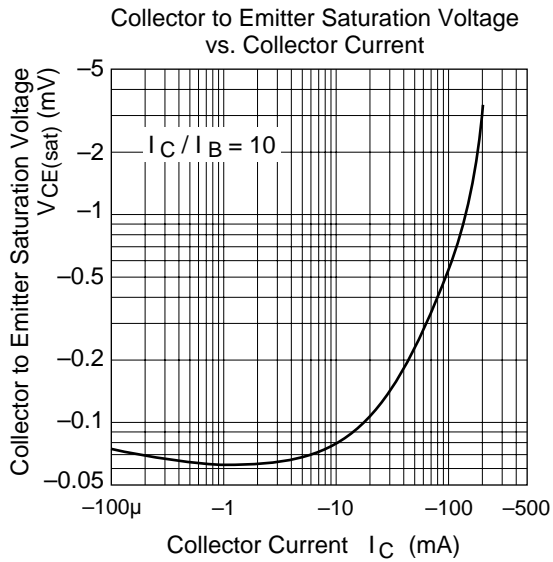
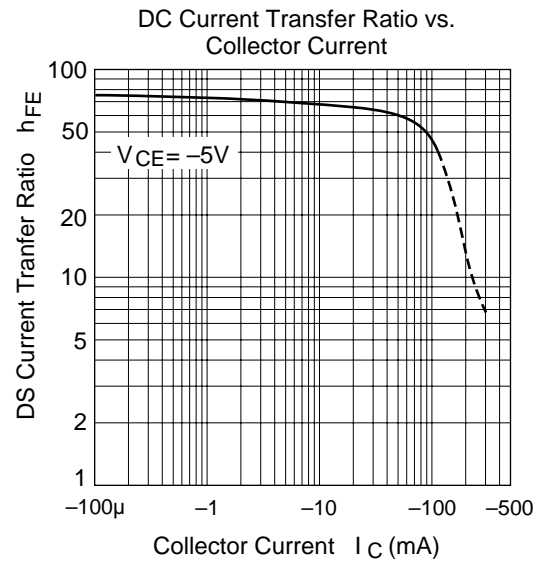
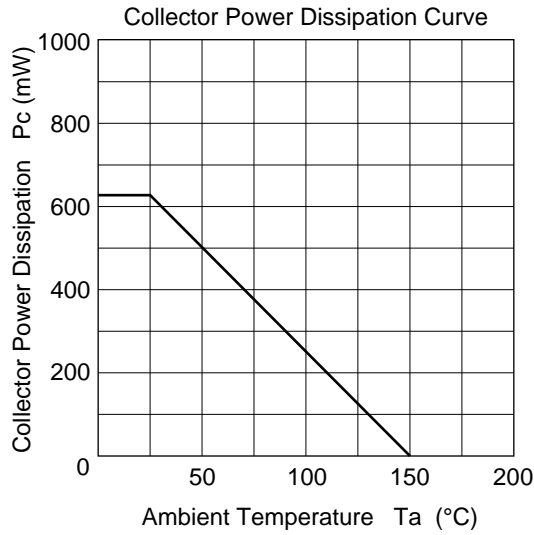
**Table 1 Absolute Maximum Ratings** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-80	V
Collector to emitter voltage	$V_{CEO}$	-80	V
Emitter to base voltage	$V_{EBO}$	-3	V
Collector current	$I_C$	-300	mA
Collector power dissipation	$P_C$	625	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

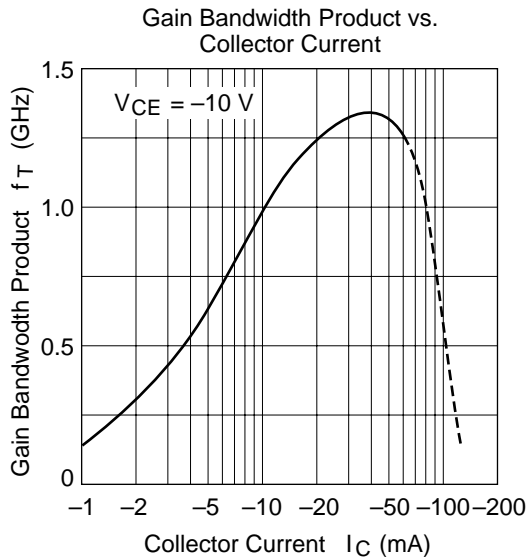
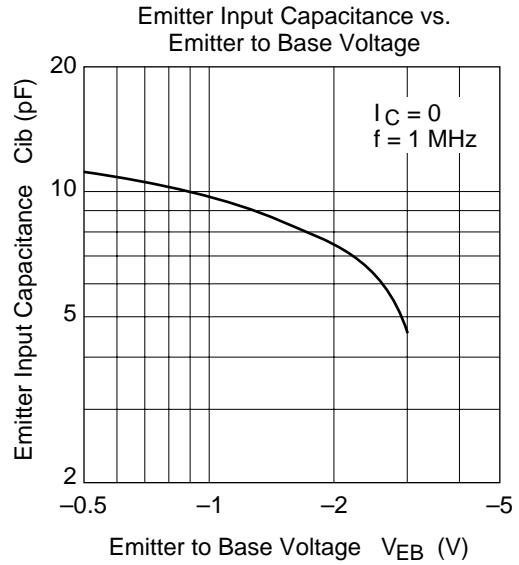
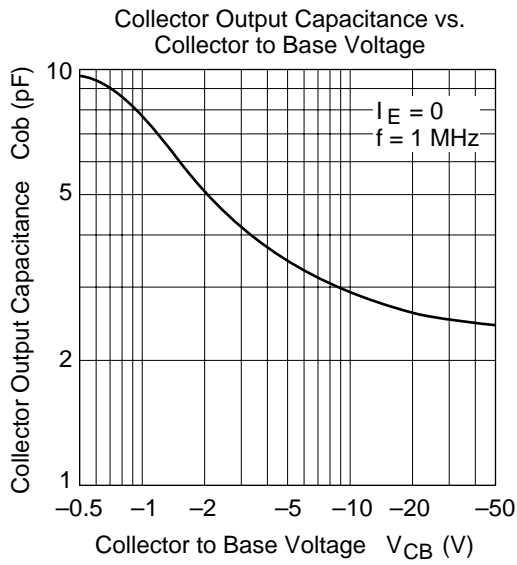
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**Table 2 Electrical Characteristics (Ta = 25°C)**

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-80	—	—	V	$I_C = -100 \mu A$ $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -1 \text{ mA}$ $R_{BE} = \infty$
Collector to base cutoff current	$I_{CBO}$	—	—	-1.0	$\mu A$	$V_{CB} = -60 \text{ V}$ $I_E = 0$
Emitter to base cutoff current	$I_{EBO}$	—	—	-10	$\mu A$	$V_{EB} = -3 \text{ V}$ $I_C = 0$
DC current transfer ratio	$h_{FE}$	20	60	—		$V_{CE} = -5 \text{ V}$ , $I_C = -50 \text{ mA}$ Pulse test
Gain bandwidth product	$f_T$	1.1	1.3	—	GHz	$V_{CE} = -10 \text{ V}$ $I_C = -50 \text{ mA}$
Emitter input capacitance	$C_{ib}$	—	14.5	18	pF	$V_{EB} = 0$ $I_C = 0$ $f = 1 \text{ MHz}$
Collector output capacitance	$C_{ob}$	—	2.9	4.0	pF	$V_{CB} = -10 \text{ V}$ $I_E = 0$ $f = 1 \text{ MHz}$



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### Package Dimensions

Unit : mm

