

2SA1960

Silicon NPN Epitaxial Transistor

1st. Edition
Sep. 1995

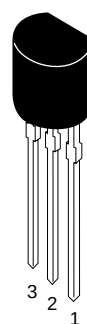
Application

- 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.
 $C_{ob} = 2.9\text{ pF}$

TO-92



1. Emitter
2. Collector
3. Base

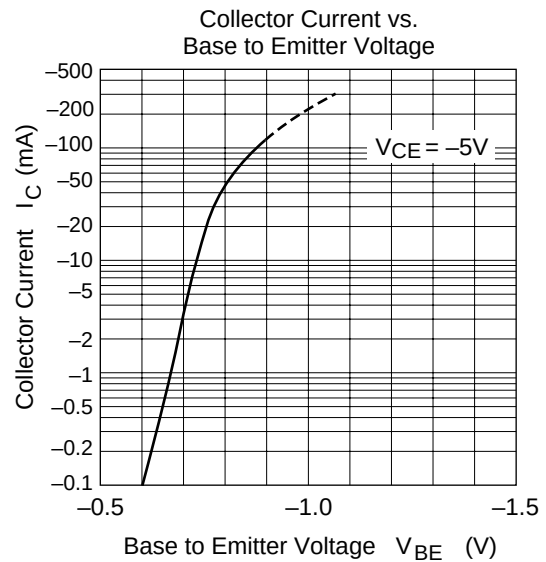
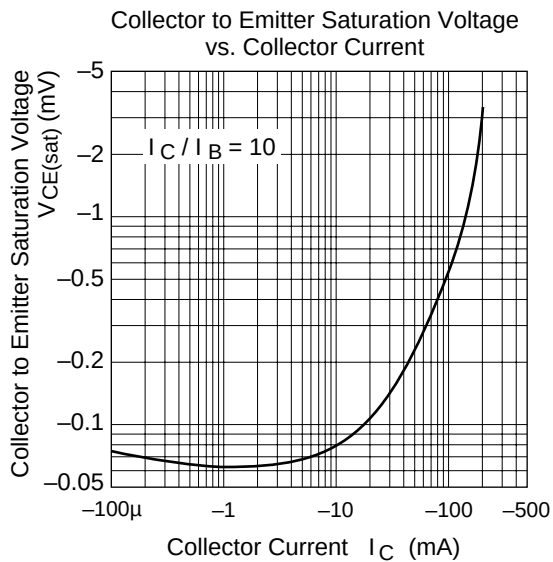
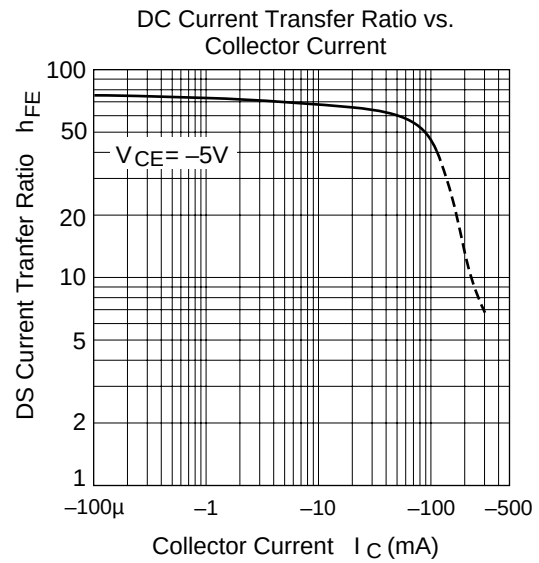
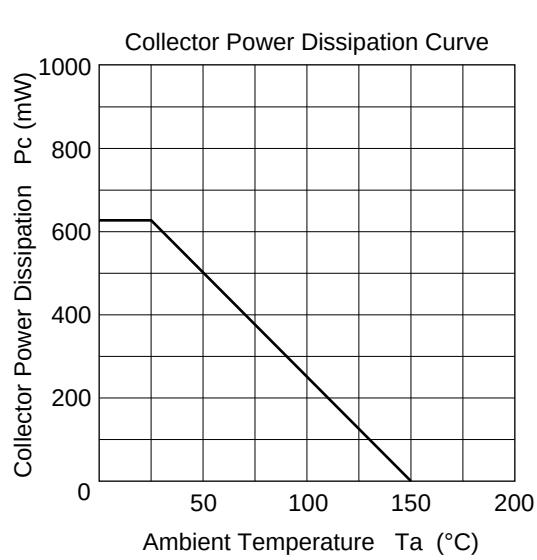
Table 1 Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

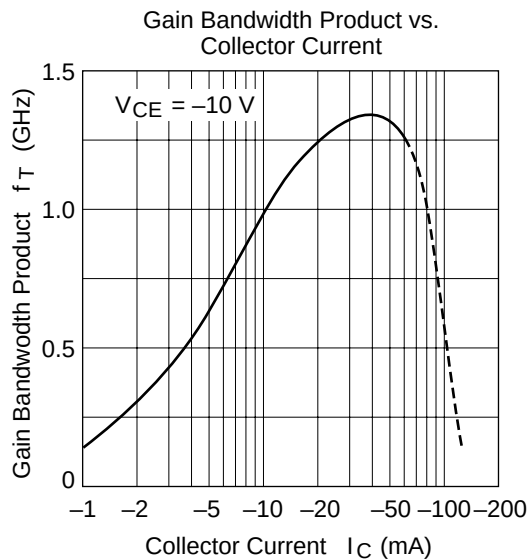
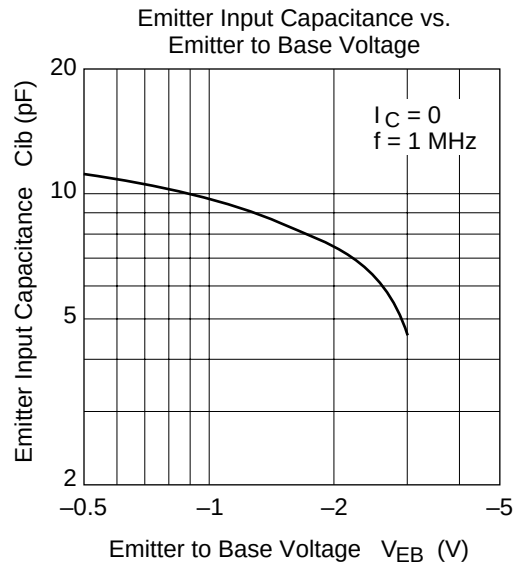
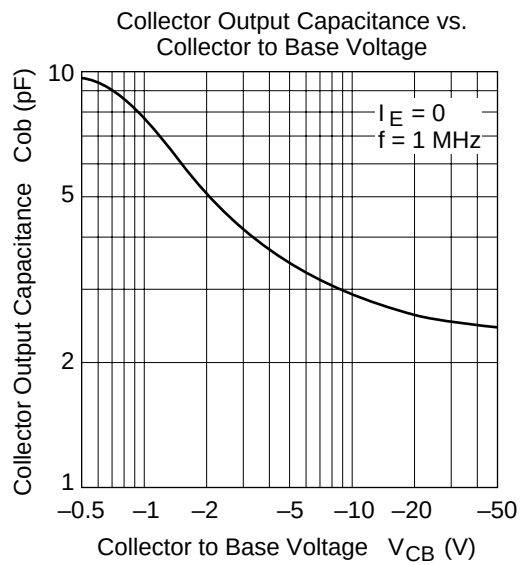
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-80	V
Collector to emitter voltage	V_{CEO}	-80	V
Emitter to base voltage	V_{EBO}	-3	V
Collector current	I_C	-300	mA
Collector power dissipation	P_C	625	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SA1960

Table 2 Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-80	—	—	V	$I_C = -100\ \mu\text{A}$ $I_E = 0$
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	μA	$V_{CB} = -60\ \text{V}$ $I_E = 0$
Emitter to base cutoff current	I_{EBO}	—	—	-10	μA	$V_{EB} = -3\ \text{V}$ $I_C = 0$
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	$V_{EB} = 0$ $f = 1\ \text{MHz}$ $I_C = 0$
Collector output capacitance	C_{ob}	—	2.9	4.0	pF	$V_{CB} = -10\ \text{V}$ $f = 1\ \text{MHz}$ $I_E = 0$





Package Dimensions

Unit : mm

