Ordering number:EN2528A

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1476/2SC3782

Ultrahigh-Definition CRT Display Video Output Applications

Applications

- Video output.
- Color TV chroma output.
- Wide-band amp.

Features

- High f_T (f_T typ=400MHz).
- High breakdown voltage (V_{CEO}≥200V).
- Small reverse transfer capacitance and excellent high frequency characteristic : C_{re}=2.1pF (NPN), 2.6pF (PNP).
- Complementary PNP and NPN types.
- Adoption of FBET process.

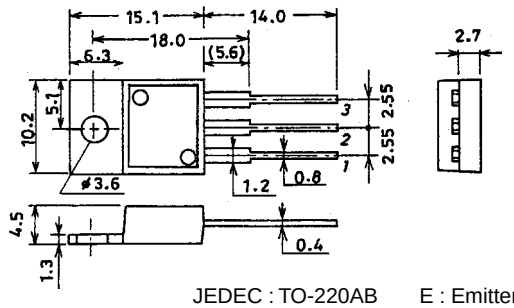
( ) : 2SA1476

Package Dimensions

unit:mm

2010C

[2SA1476/2SC3782]



JEDEC : TO-220AB
EIAJ : SC-46

E : Emitter
C : Collector
B : Base

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)200	V
Collector-to-Emitter Voltage	V_{CEO}		(–)200	V
Emitter-to-Base Voltage	V_{EBO}		(–)4	V
Collector Current	I_C		(–)200	mA
Peak Collector Current	I_{CP}		(–)300	mA
Collector Dissipation	P_C		1.5	W
		Tc=50˚C	15	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

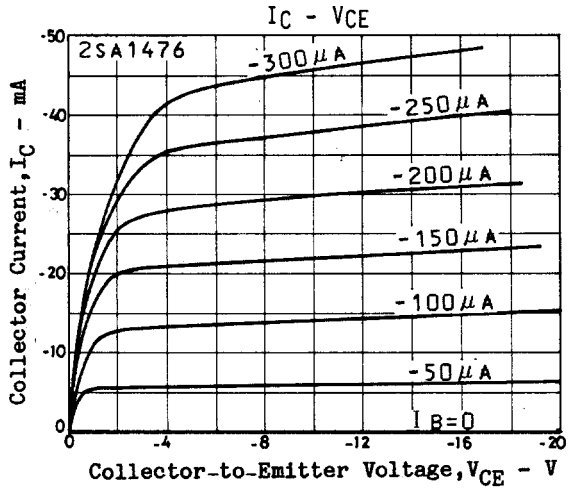
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

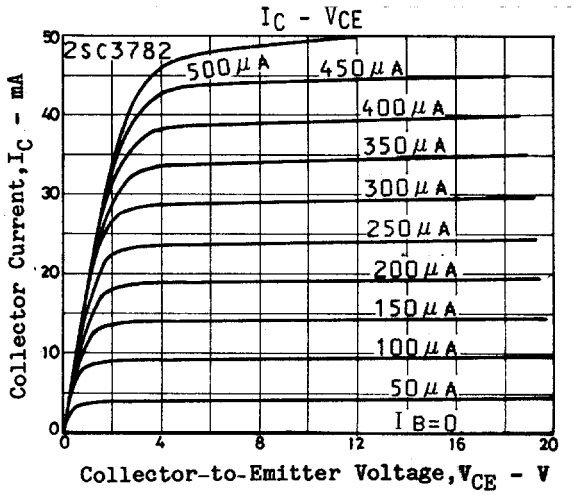
Electrical Characteristics at Ta = 25˚C

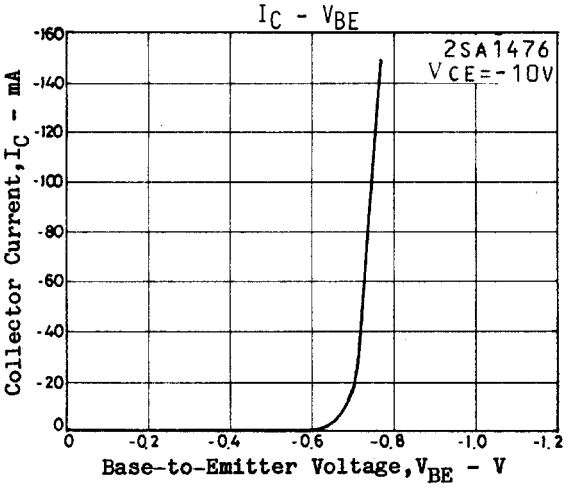
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)150V, I_E=0			(–)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)2V, I_C=0			(–)1.0	μA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)10V, I_C=(–)10mA	40*		320*	
	$h_{FE}2$	V_{CE}=(–)10V, I_C=(–)100mA	20			
Gain-Bandwidth Product	f_T	V_{CE}=(–)30V, I_C=(–)50mA		400		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)50mA, I_B=(–)5mA			0.6	V
					(–0.8)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)50mA, I_B=(–)5mA			(–)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)200			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)200			V
Emitter-to-Base Breakdown Votage	$V_{(BR)EBO}$	I_E=(–)100μA, I_C=0	(–)4			V
Output Capacitance	C_{ob}	V_{CB}=(–)30V, f=1MHz		2.6		pF
				(3.1)		pF
Reverse Transfer Capacitance	C_{re}	V_{CB}=(–)30V, f=1MHz		2.1		pF
				(2.6)		pF

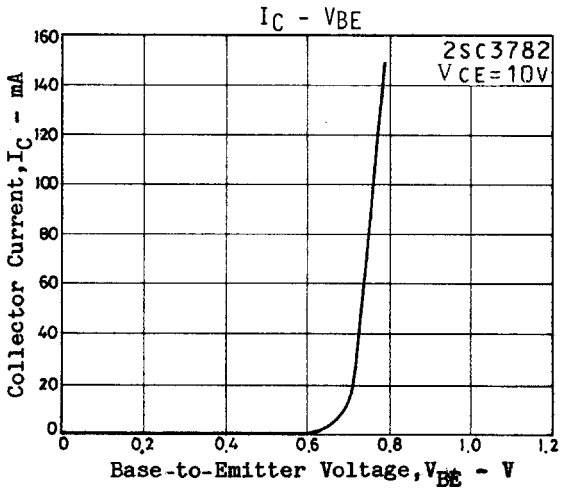
* : The 2SA1476/2SC3782 are classified by 10mA h_{FE} as follows :

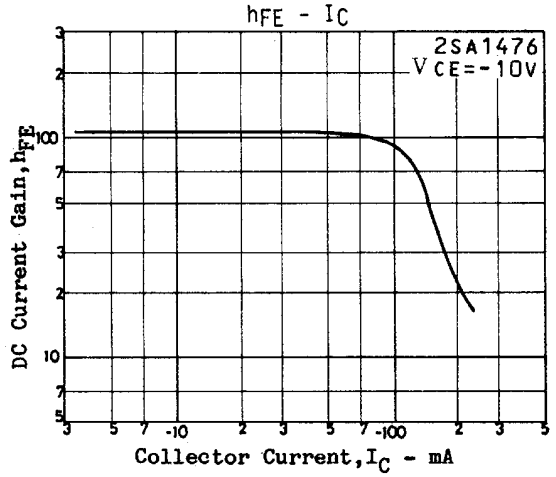
40	C	80	60	D	120	100	E	200	160	F	320

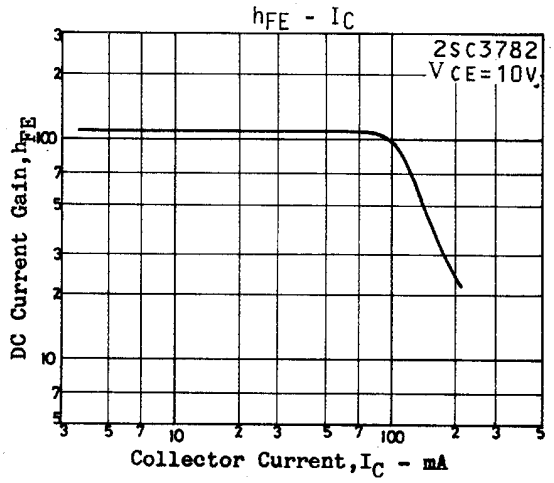


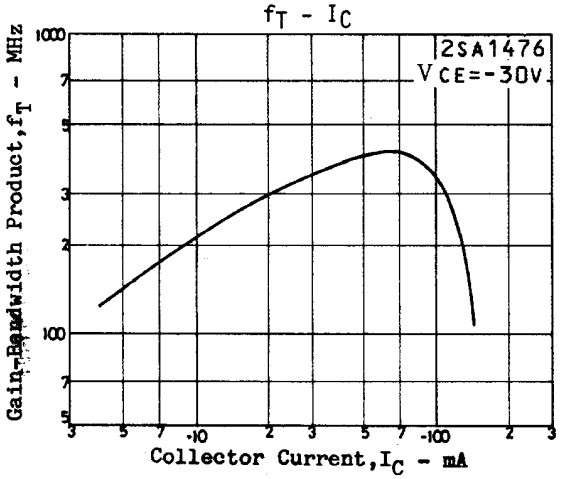


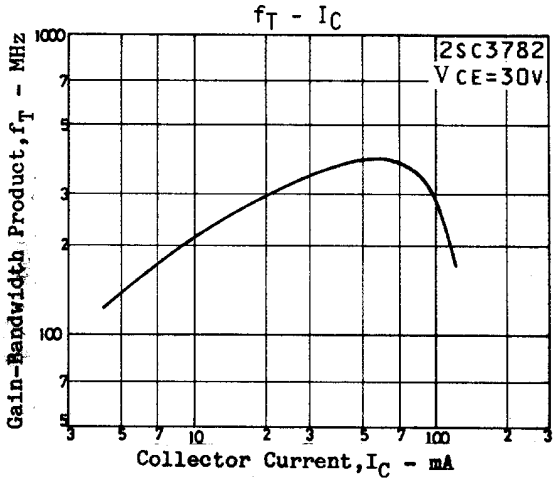


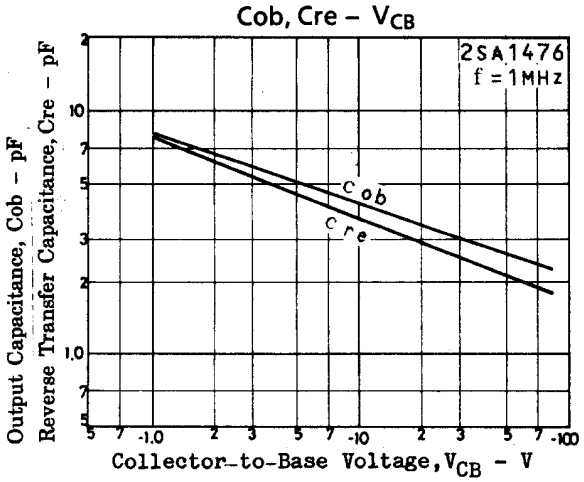


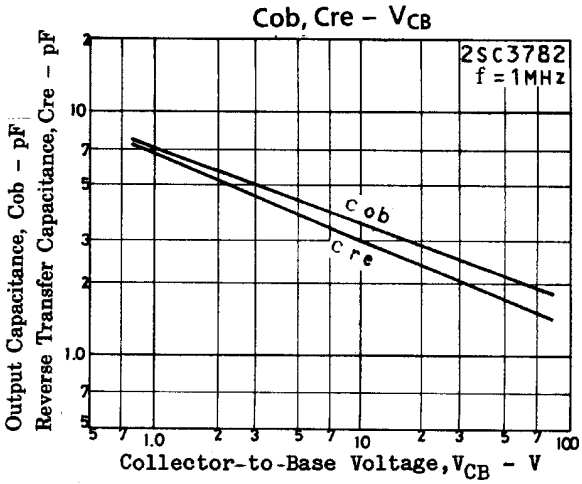

hFE - IC
2SA1476
VCE=-10V
DC Current Gain, hFE
Collector Current, IC - mA

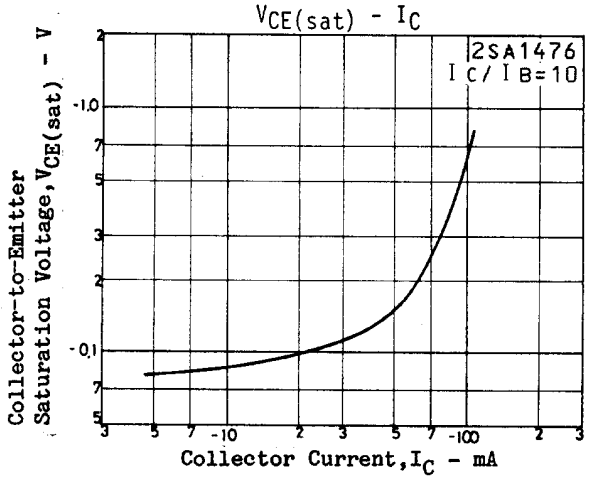

hFE - IC
2SC3782
VCE=10V
DC Current Gain, hFE
Collector Current, IC - mA

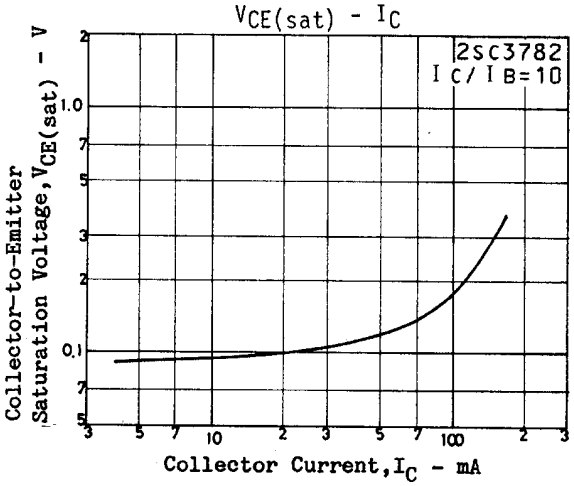

fT - IC
2SA1476
VCE=-30V
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA


fT - IC
2SC3782
VCE=30V
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA


Cob, Cre - VCB
2SA1476
f=1MHz
cob
cre
Output Capacitance, Cob - pF
Reverse Transfer Capacitance, Cre - pF
Collector-to-Base Voltage, VCB - V


Cob, Cre - VCB
2SC3782
f=1MHz
cob
cre
Output Capacitance, Cob - pF
Reverse Transfer Capacitance, Cre - pF
Collector-to-Base Voltage, VCB - V


VCE(sat) - IC
2SA1476
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - mA


VCE(sat) - IC
2SC3782
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - mA