Ordering number:EN2526

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1474/2SC3780

Ultrahigh-Definition CRT Display Video Output Applications

Applications

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

Features

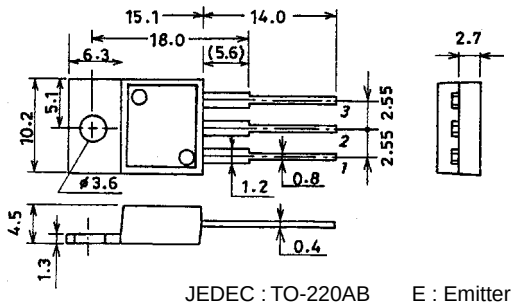
- High f_T (f_T typ=800MHz).
- Small reverse transfer capacitance and excellent high frequency characteristic
  : C_{re}=3.0pF (NPN), 4.7pF (PNP).
- Complementary PNP and NPN types.
- Adoption of FBET process.

Package Dimensions

unit:mm

2010C

[2SA1474/2SC3780]



JEDEC : TO-220AB
EIAJ : SC-46

E : Emitter
C : Collector
B : Base

( ) : 2SA1474

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)80	V
Collector-to-Emitter Voltage	V_{CEO}		(–)60	V
Emitter-to-Base Voltage	V_{EBO}		(–)4	V
Collector Current	I_C		(–)800	mA
Peak Collector Current	I_{CP}		(–)1	A
Collector Dissipation	P_C		1.5	W
		Tc=50˚C	15	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)60V, 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=(–)50mA	40*		320*	
	$h_{FE}2$	V_{CE}=(–)10V, I_C=(–)400mA	20			
Gain-Bandwidth Product	f_T	V_{CE}=(–)10V, I_C=(–)100mA		800		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)100mA, I_B=(–)10mA			0.6	V
					(–0.8)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)100mA, I_B=(–)10MA			(–)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)60			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		3.5		pF
				(5.3)		pF
Reverse Transfer Capacitance	C_{re}	V_{CB}=(–)30V, f=1MHz		3.0		pF
				(4.7)		pF

*: The 2SA1474/2SC3780 are classified by 50mA h_{FE} as follows :

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

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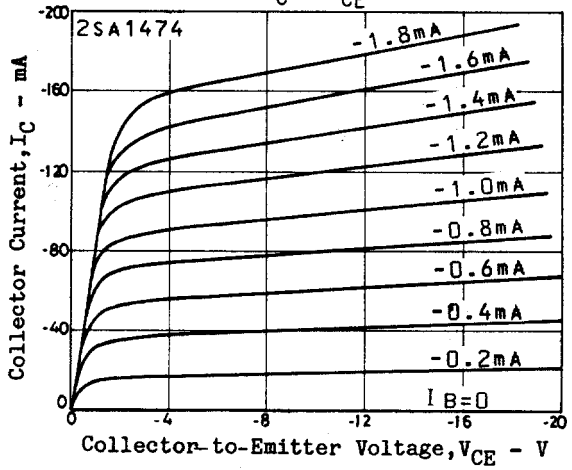
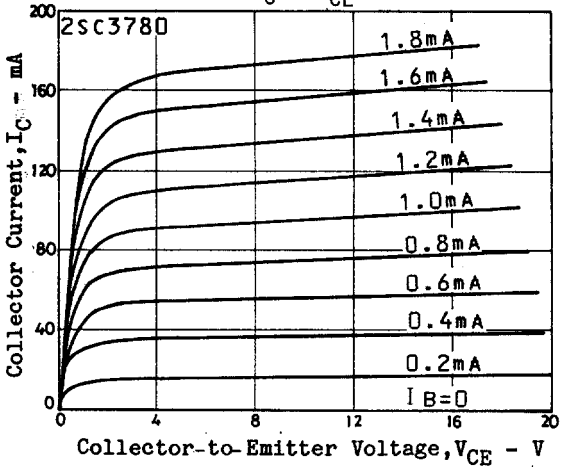
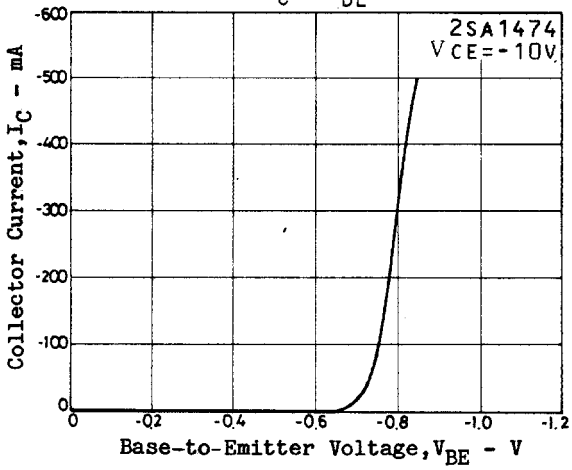
I_C - V_{CE}



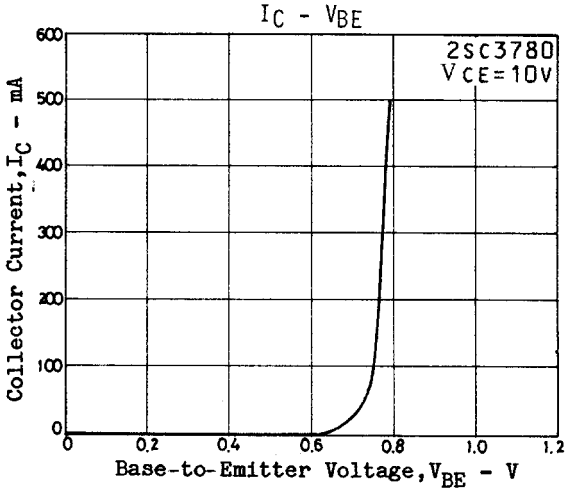
I_C - V_{CE}



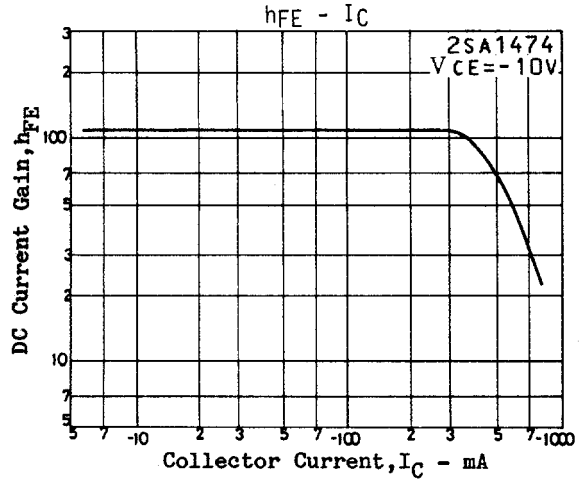
I_C - V_{BE}



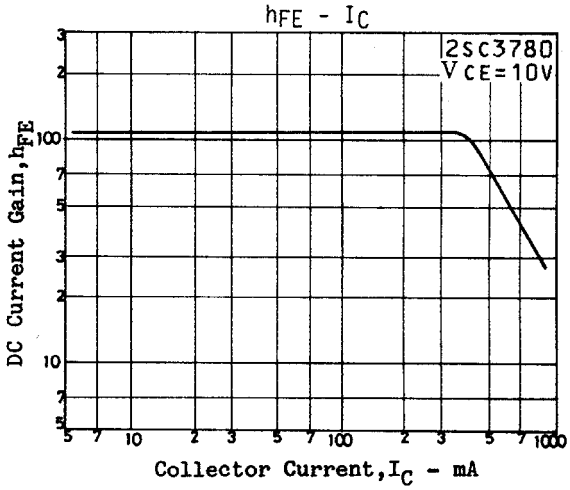
I_C - V_{BE}



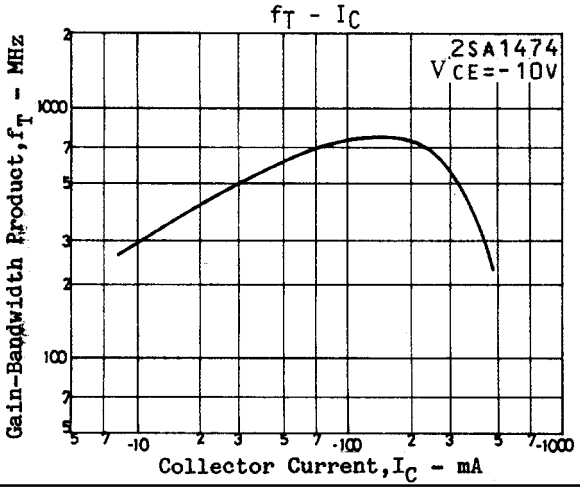
h_{FE} - I_C



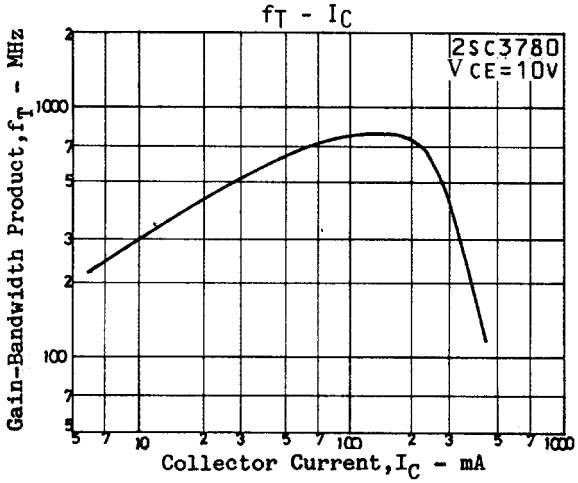
h_{FE} - I_C



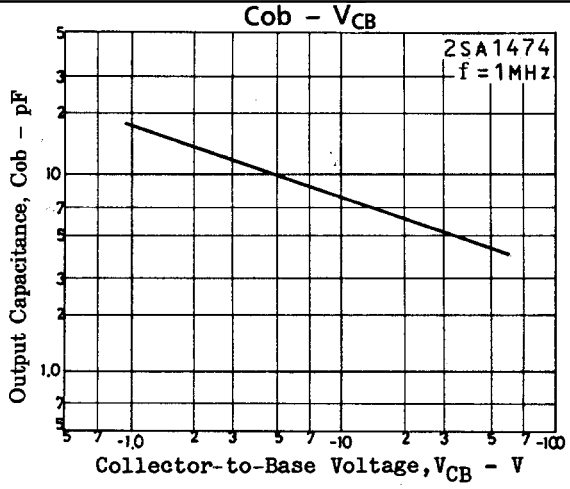
f_T - I_C



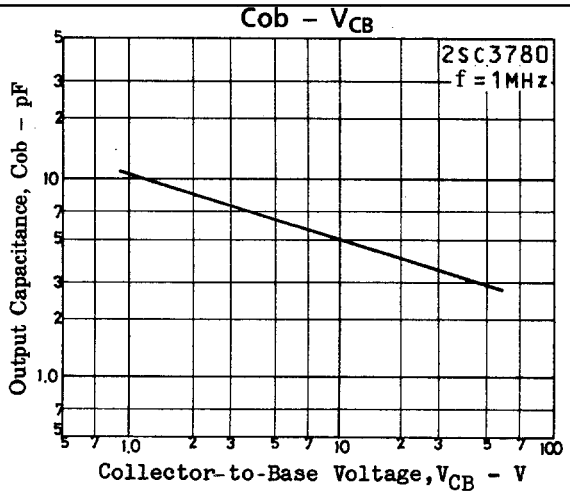
f_T - I_C



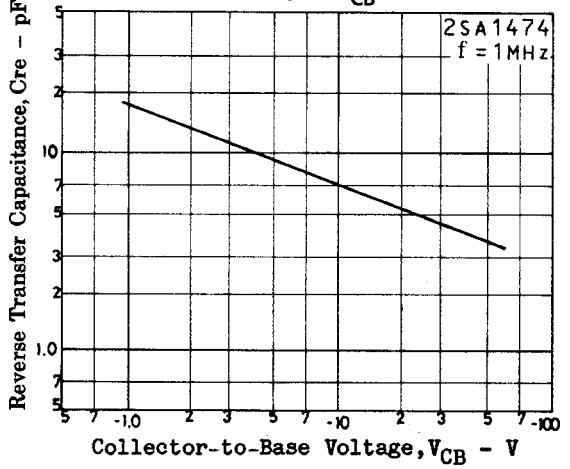
Cob – V_{CB}



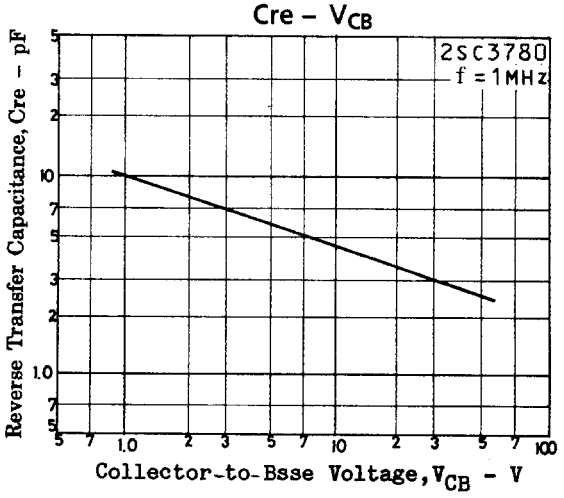
Cob – V_{CB}



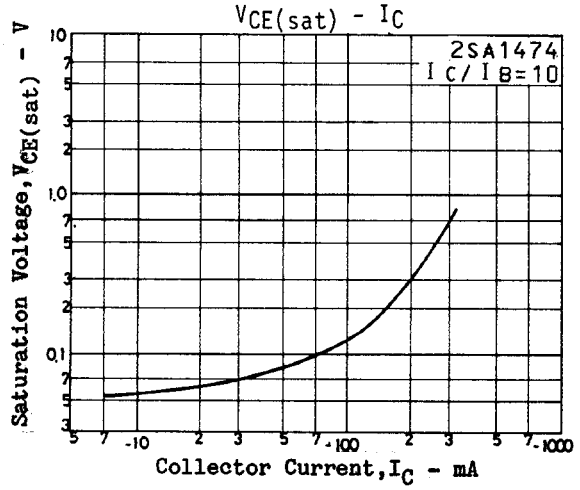
Cre – V_{CB}



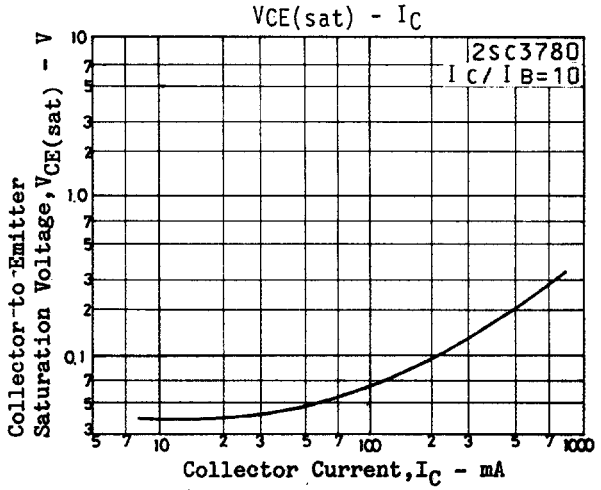
Cre – V_{CB}



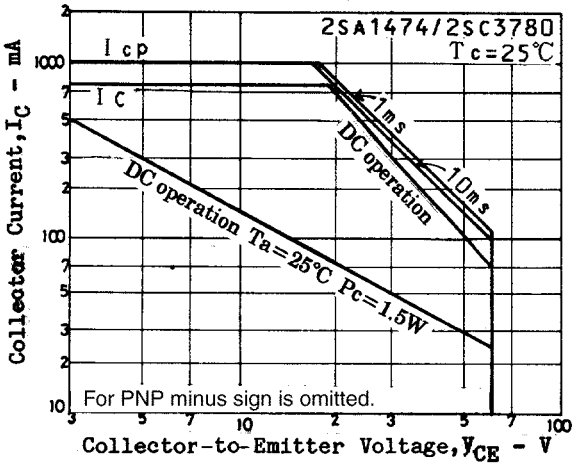
$V_{CE(sat)}$ – I_C



$V_{CE(sat)}$ – I_C



A S O



P_C – Ta