Ordering number:ENN2254

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1480/2SC3790

High-Definiton CRT Display Video Output Applications

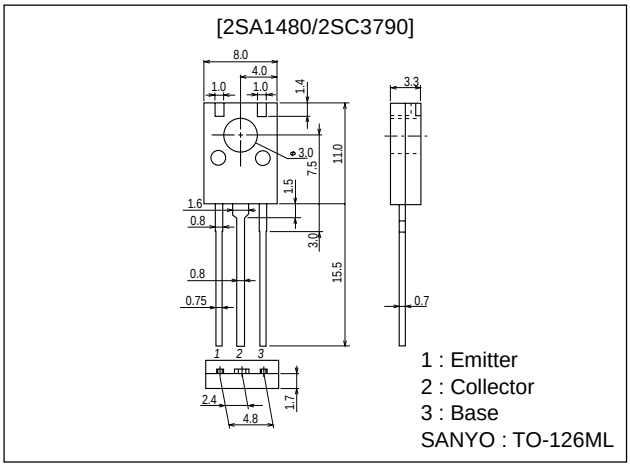
Features

- High breakdown voltage (V_{CEO}≥300V).
- Small reverse transfer capacitance and excellent high frequency characteristic
  : C_{re}=1.8pF (NPN), 2.3pF (PNP).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2042B



( ) : 2SA1480

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)300	V
Collector-to-Emitter Voltage	V_{CEO}		(–)300	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)100	mA
Peak Collector Current	I_{CP}		(–)200	mA
Collector Dissipation	P_C		1.5	W
		Tc=25˚C	7	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}=(–)200V, I_E=0			(–)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(–)10V, I_C=(–)10mA	40*		320*	
Gain-Bandwidth Product	f_T	V_{CE}=(–)30V, I_C=(–)10mA		150		MHz

* : The 2SA1480/2SC3790 are classified by 10mA h_{FE} as follows :

Rank	C	D	E	F
h_{FE}	40 to 80	60 to 120	100 to 200	160 to 320

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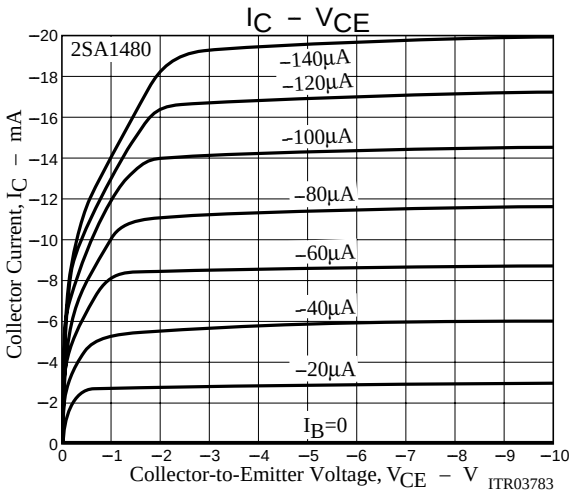
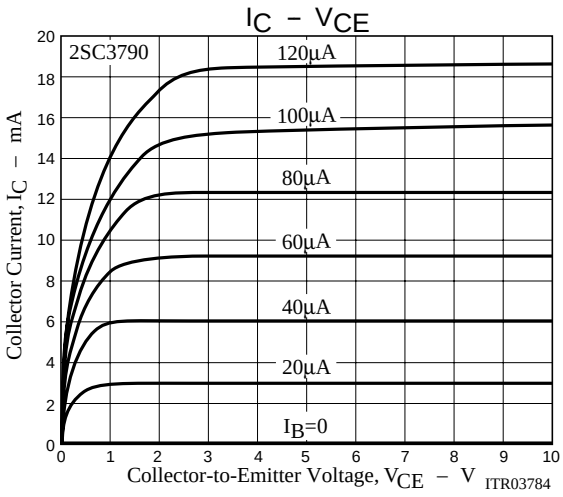
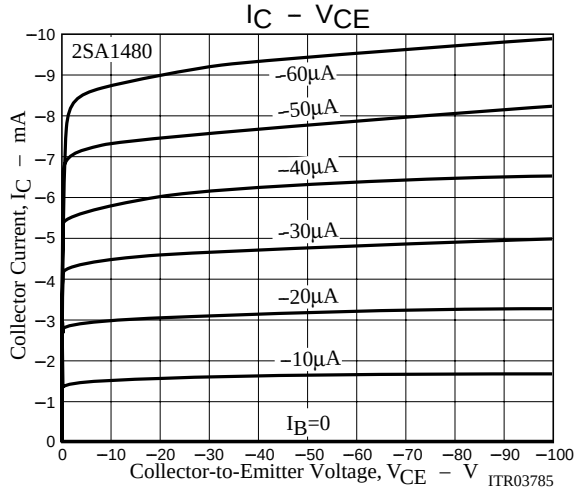
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

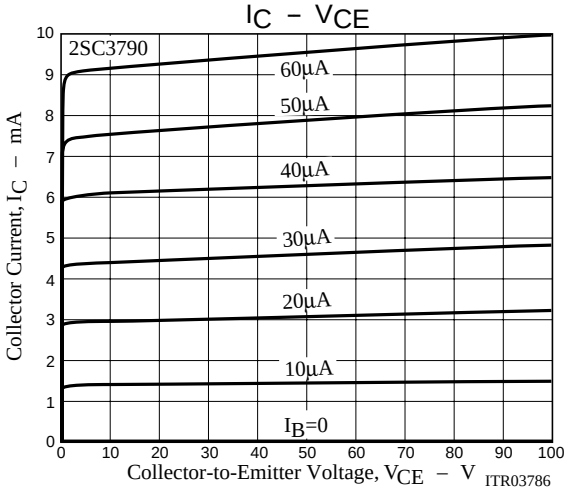
Continued from preceding page.

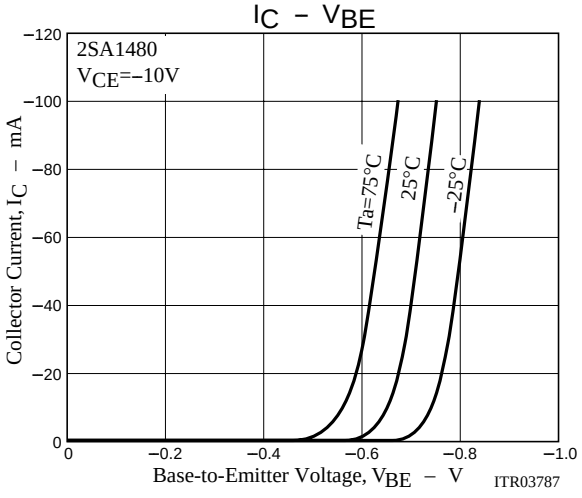
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	V_{CB}=(–)30V, f=1MHz		2.6		pF
				(3.1)		pF
Reverse Transfer Capacitance	C_{re}	V_{CB}=(–)30V, f=1MHz		1.8		pF
				(2.3)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)20mA, I_B=(–)2mA			(–)0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)20mA, I_B=(–)2mA			(–)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)300			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)300			V
Emitter-to-Base Breakdown Votage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)5			V

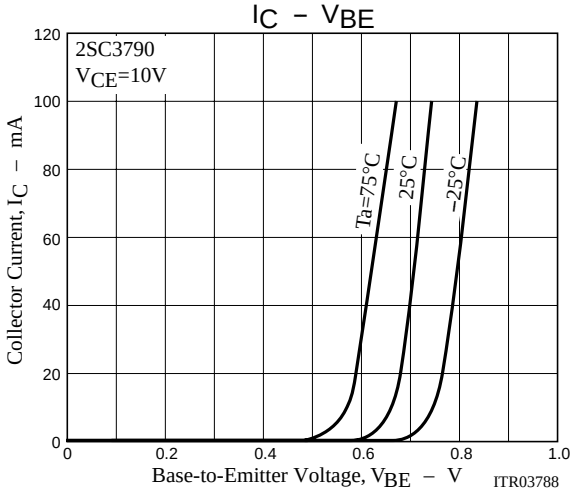




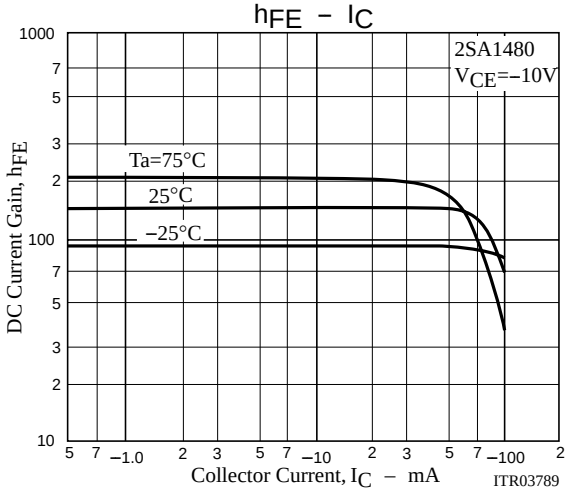




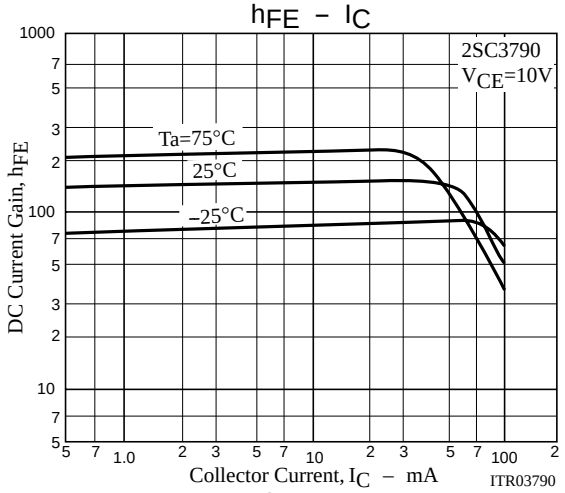




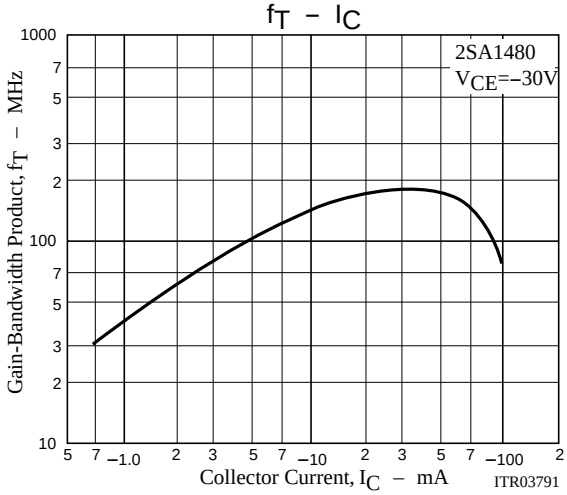
h_{FE} – I_C



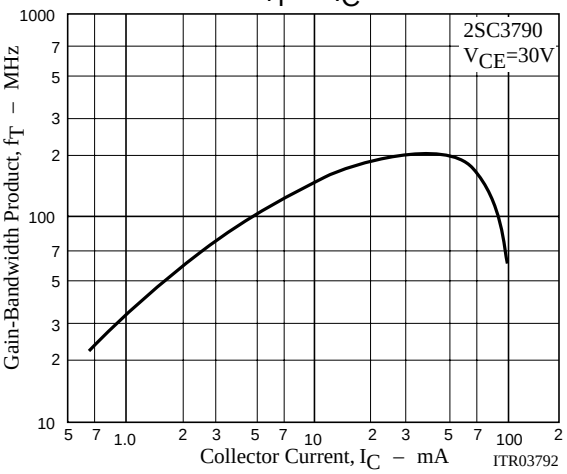
h_{FE} – I_C



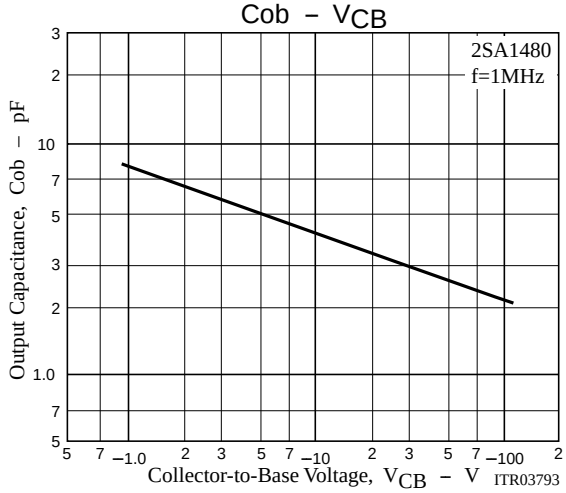
f_T – I_C



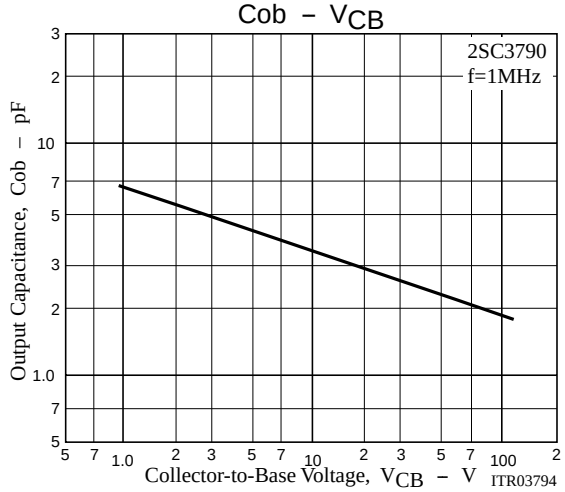
f_T – I_C



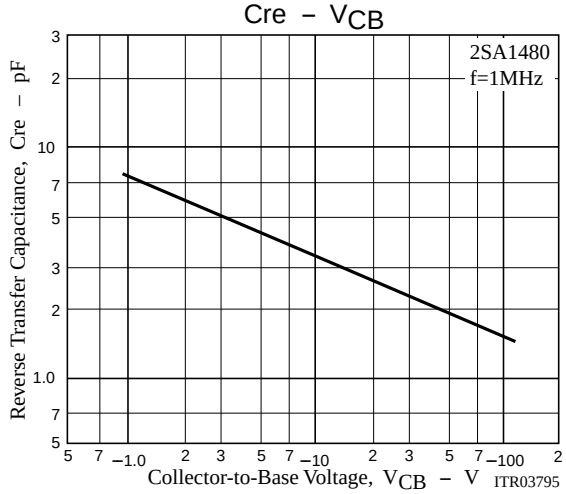
Cob – V_{CB}



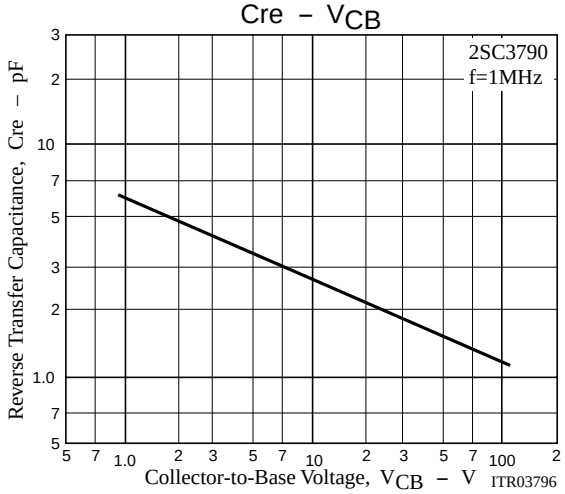
Cob – V_{CB}



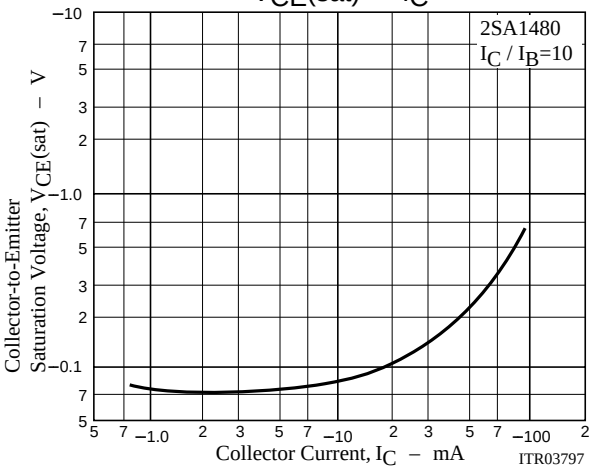
Cre – V_{CB}



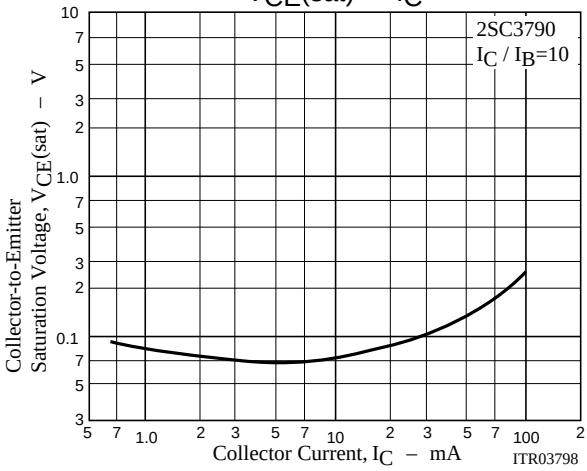
Cre – V_{CB}



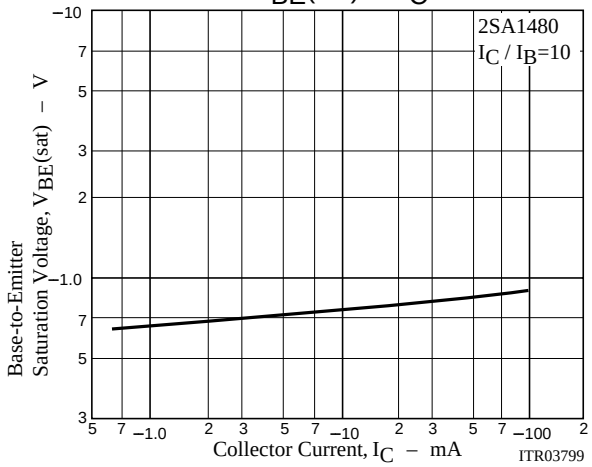
$V_{CE}(sat)$ – I_C



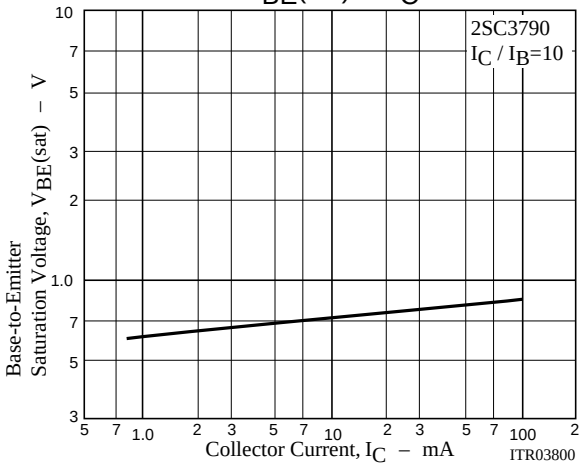
$V_{CE}(sat)$ – I_C



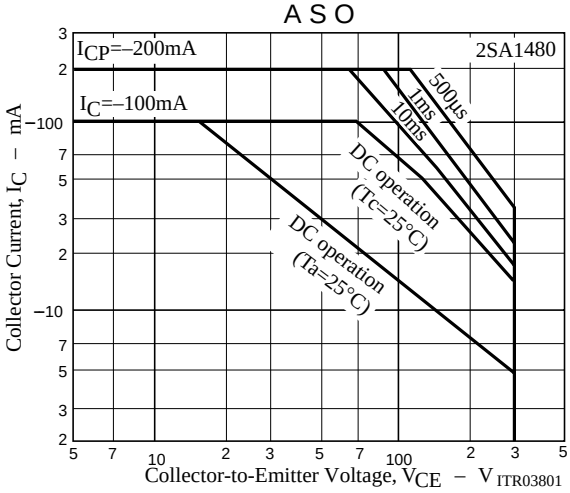
$V_{BE}(sat)$ – I_C



$V_{BE}(sat)$ – I_C



A S O



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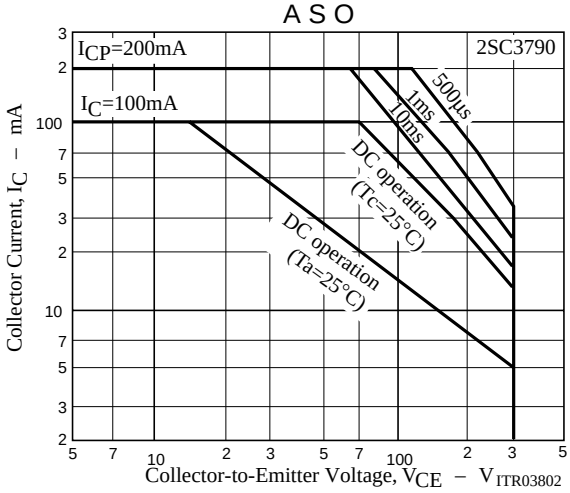

P_C – Ta