Ordering number : ENN3031A

PNP / NPN Triple Diffused Planar Silicon Transistors

2SB1133 / 2SD1666

Low-Frequency General-Purpose Amplifier Applications

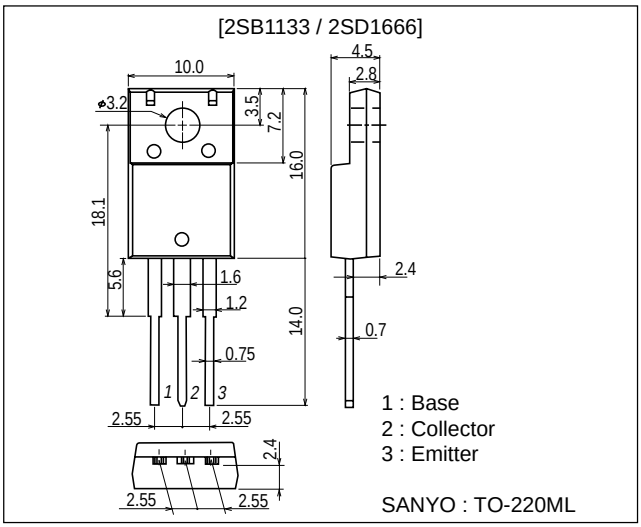
Features

- Wide ASO(Adoption of MBIT process).
- Micaless package facilitating easy mounting.
- High reliability.

Package Dimensions

unit : mm

2041A



Specifications

( ) : 2SB1133

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)60	V
Collector-to-Emitter Voltage	V_{CEO}		(–)60	V
Emitter-to-Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)3	A
Collector Current (Pulse)	I_{CP}		(–)8	A
Collector Dissipation	P_C		2	W
		Tc=25°C	25	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–40 to +150	°C

Electrical Characteristics at Ta=25 °C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)40V, I_E=0			(-)100	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)100	μA
DC Current Gain	$h_{FE}(1)$	V_{CE}=(-)5V, I_C=(-)0.5A	*70		*280	
	$h_{FE}(2)$	V_{CE}=(-)5V, I_C=(-)3A	20			

Continued on next page.

* : The 2SB1133 / 2SD1666 are classified by 0.5A h_{FE} as follows :

Rank	Q	R	S
h_{FE}	70 to 140	100 to 200	140 to 280

SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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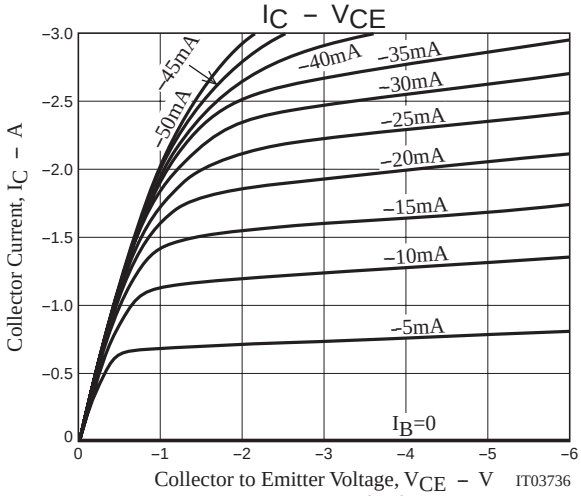
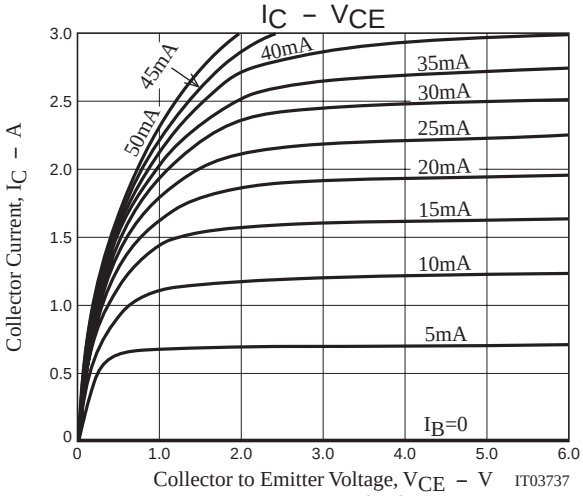
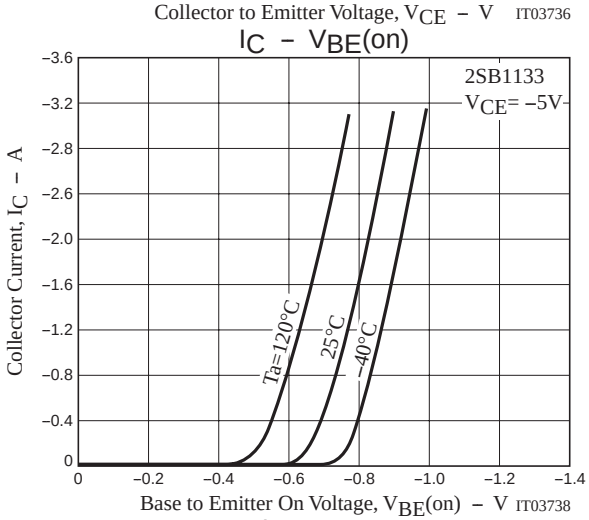
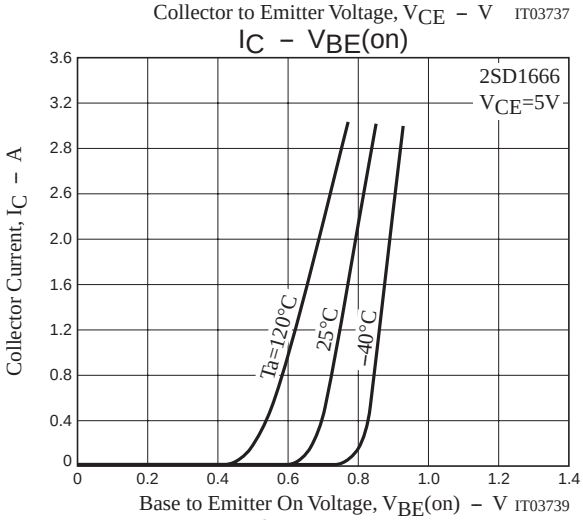
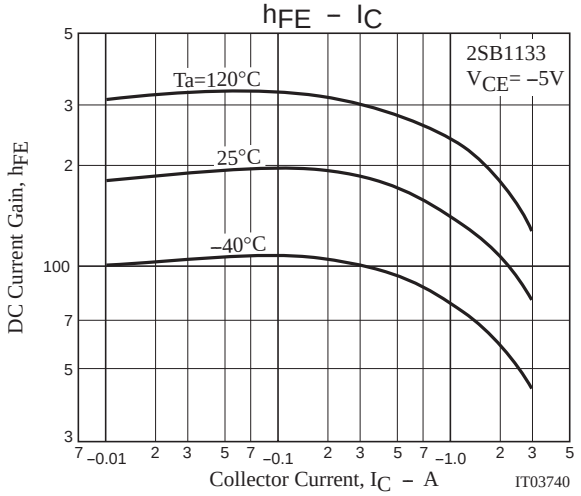
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	V_{CE}=(-)5V, I_C=(-)0.5A		(40)8		MHz
Output Capacitance	Cob	V_{CB}=(-)10V, f=1MHz		(110)60		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(-)2A, I_B=(-)0.2A		(-)0.6	(-)1	V
Base-to-Emitter Saturation Voltage	V_{BE}	V_{CE}=(-)5V, I_C=(-)0.5A		(-)0.7	(-)1	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)1mA, I_E=0	(-)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)5mA, R_{BE}=∞	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)1mA, I_C=0	(-)6			V

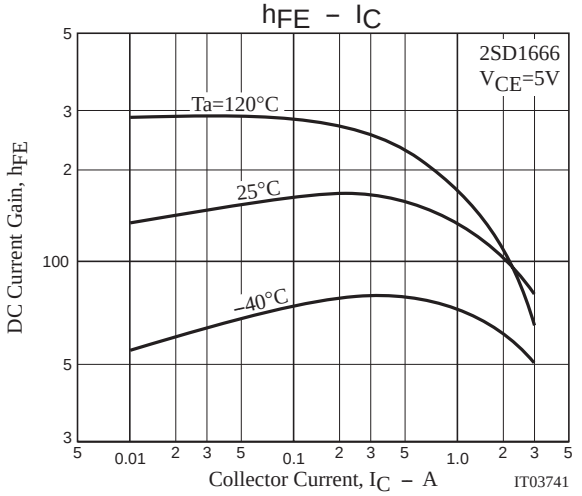




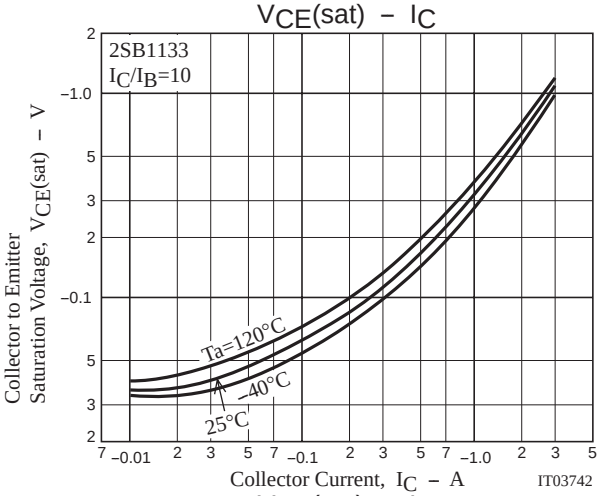




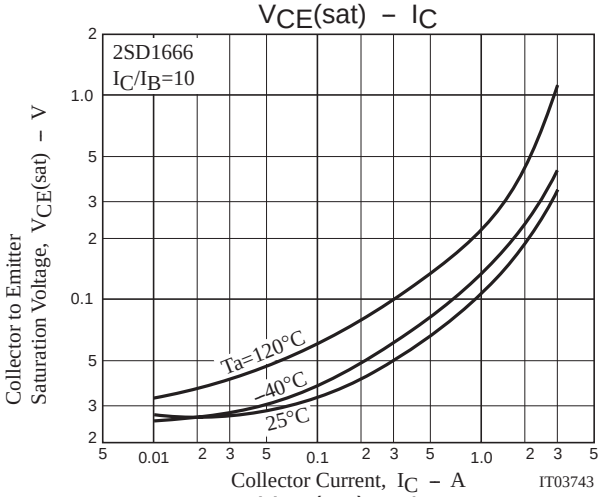




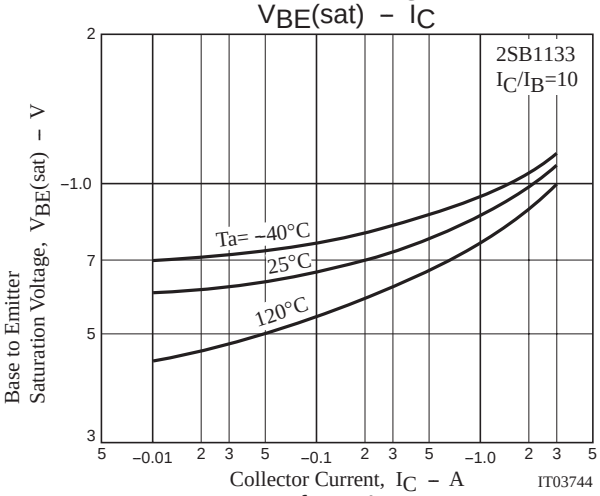
$V_{CE}(sat)$ – I_C



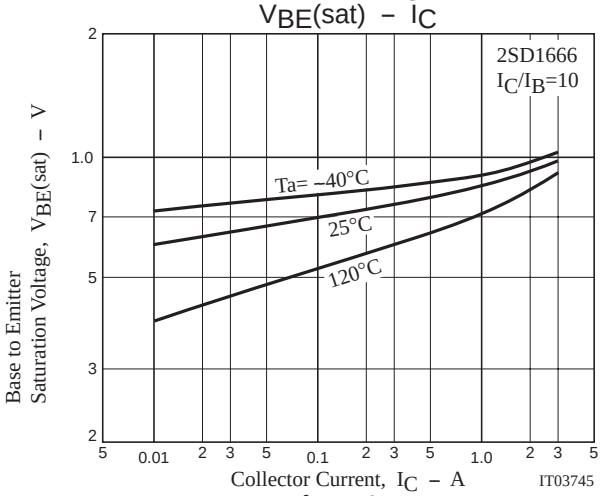
$V_{CE}(sat)$ – I_C



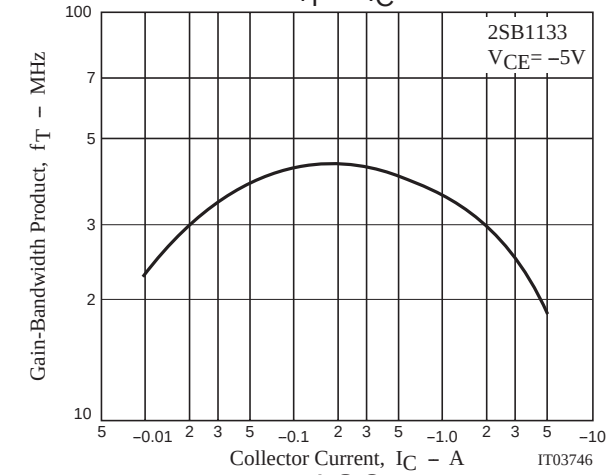
$V_{BE}(sat)$ – I_C



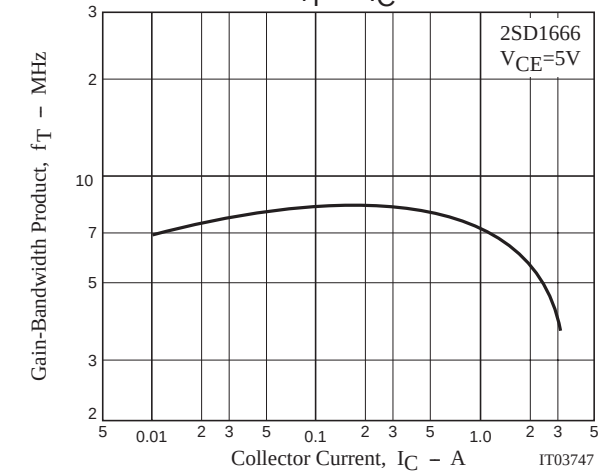
$V_{BE}(sat)$ – I_C



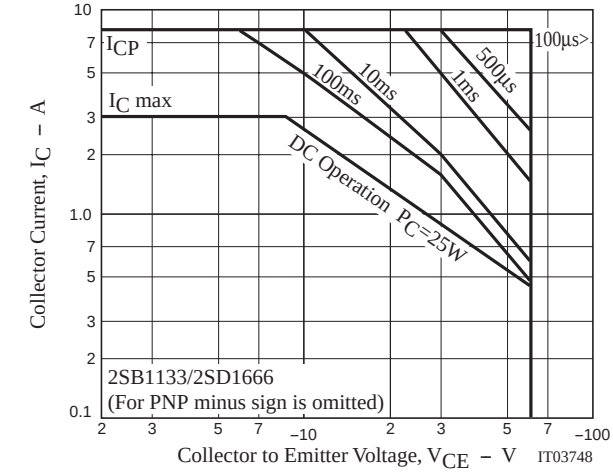
f_T – I_C



f_T – I_C



A S O



P_C – Tc