Ordering number : ENN2246B

PNP/NPN Epitaxial Planar Silicon Transistors

2SB1274/2SD1913

60V/3A Low-Frequency Power Amplifier Applications

Applications

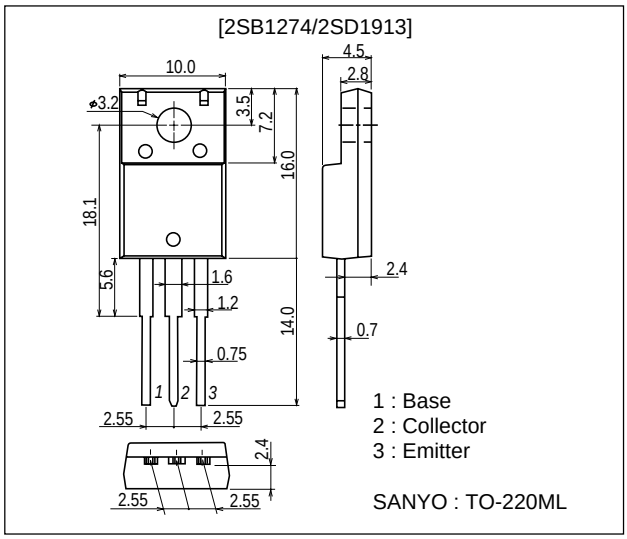
- General power amplifier.

Features

- Wide ASO (Adoption of MBIT process).
- Low saturation voltage.
- High reliability.
- High breakdown voltage.
- Micaless package facilitating mounting.

Package Dimensions

unit : mm
2041A



Specifications

( ):2SB1274

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	20	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}=(-)40V, I_E=0			(-)100	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)100	μA

Continued on next page.

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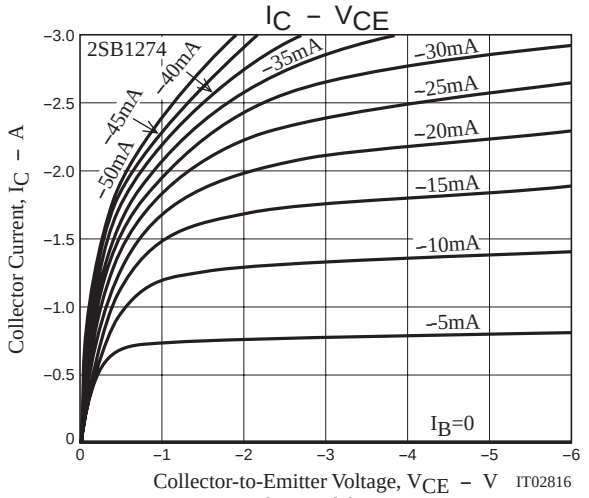
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

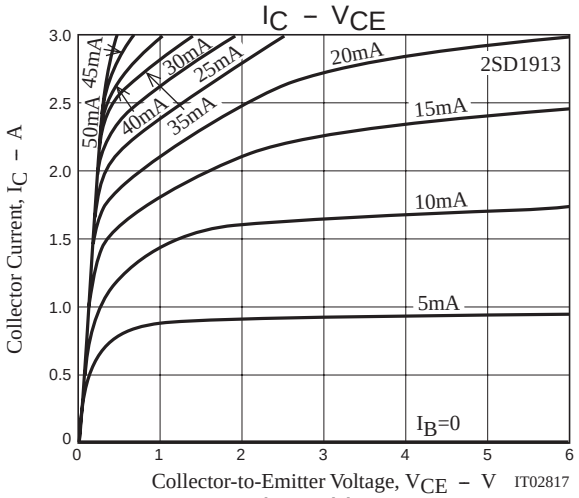
Continued from preceding page.

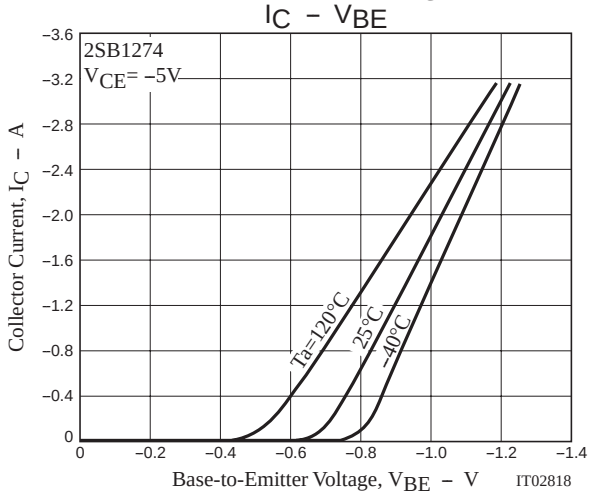
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	$h_{FE}1$	V_{CE}=(-)5V, I_C=(-)0.5A	70*		280*	
	$h_{FE}2$	V_{CE}=(-)5V, I_C=(-)3A	20			
Gain-Bandwidth Product	f_T	V_{CE}=(-)5V, I_C=(-)0.5A		100		MHz
Output Capacitance	Cob	V_{CB}=(-)10V, f=1MHz		(60)40		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(-)2A, I_B=(-)0.2A		(-)0.4	(-)1	V
Base-to-Emitter Voltage	V_{BE}	V_{CE}=(-)5V, I_C=(-)0.5A		(-)0.8	(-)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

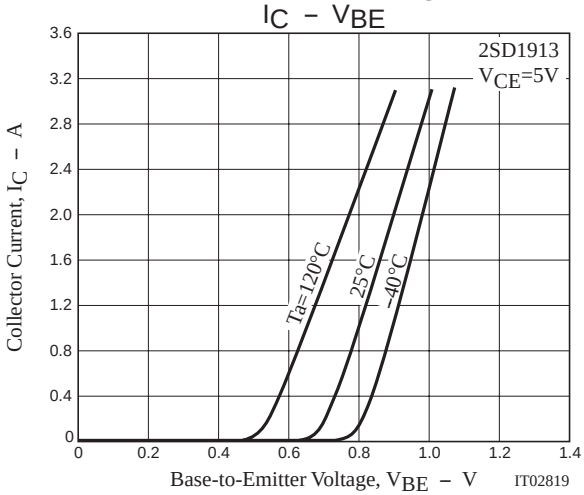
* : The 2SBB1274 / 2SD1913 are classified by 0.5A h_{FE} as follows :

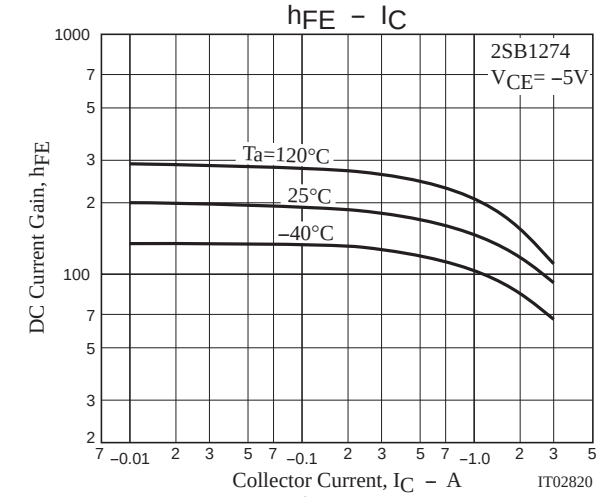
Rank	Q	R	S
h_{FE}	70 to 140	100 to 200	140 to 280

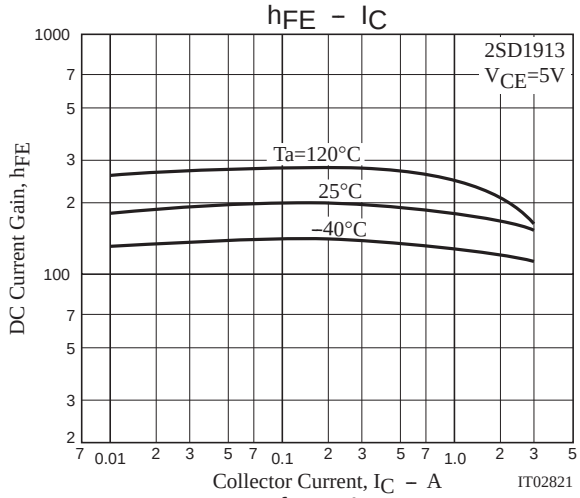


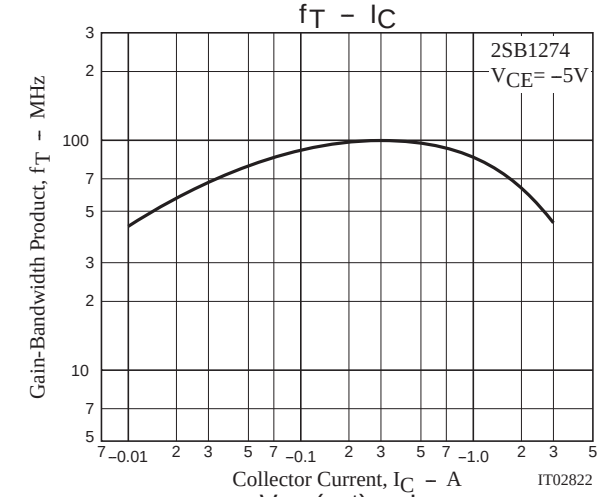


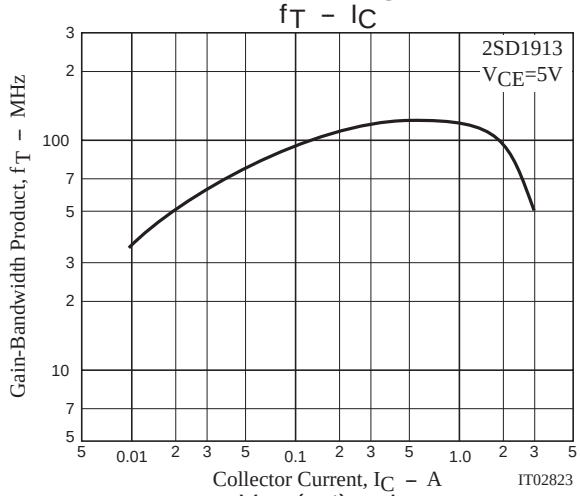


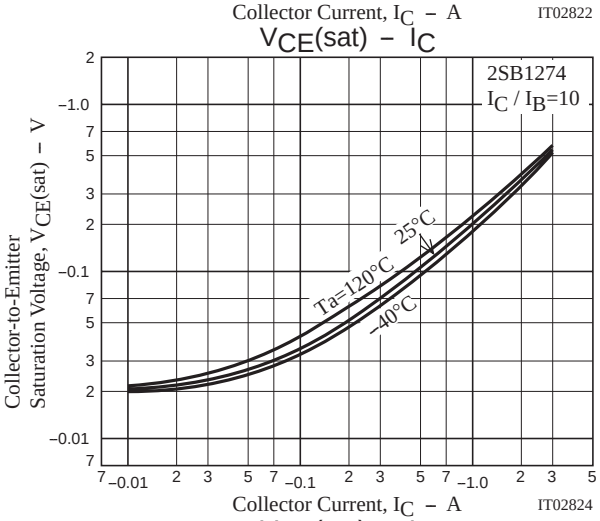


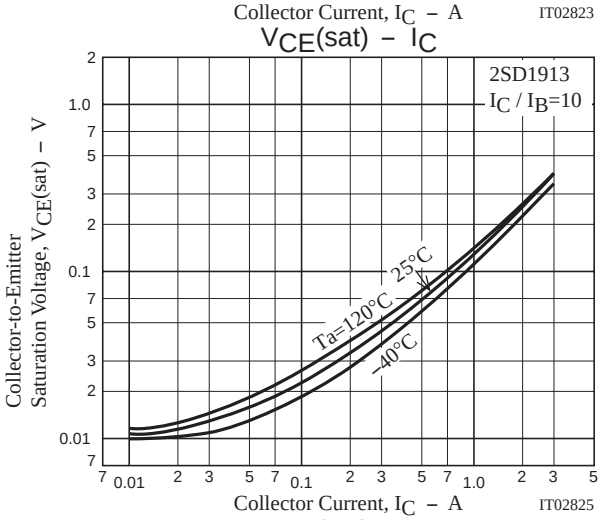

hFE – IC
2SB1274
VCE= –5V
Ta=120°C
25°C
–40°C
DC Current Gain, hFE
Collector Current, IC – A
IT02820

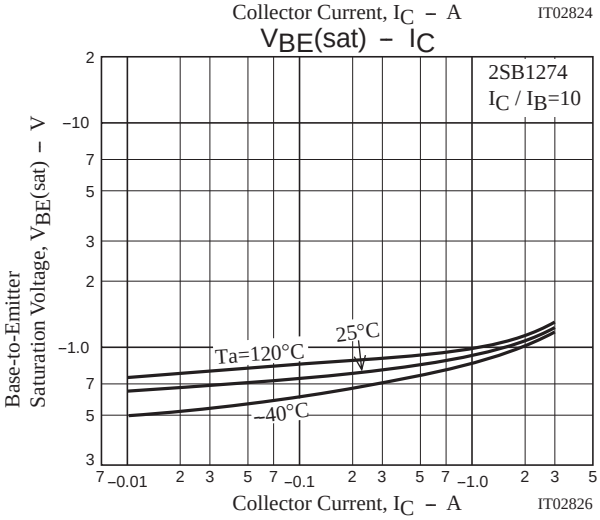

hFE – IC
2SD1913
VCE=5V
Ta=120°C
25°C
–40°C
DC Current Gain, hFE
Collector Current, IC – A
IT02821

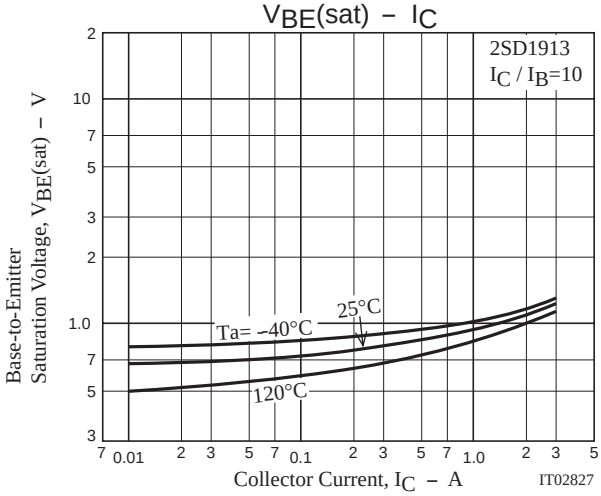

fT – IC
2SB1274
VCE= –5V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – A
IT02822


fT – IC
2SD1913
VCE=5V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – A
IT02823


VCE(sat) – IC
2SB1274
IC / IB=10
Ta=120°C
25°C
–40°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A
IT02824


VCE(sat) – IC
2SD1913
IC / IB=10
Ta=120°C
25°C
–40°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A
IT02825


VBE(sat) – IC
2SB1274
IC / IB=10
Ta=120°C
25°C
–40°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A
IT02826


VBE(sat) – IC
2SD1913
IC / IB=10
Ta= –40°C
25°C
120°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A
IT02827