Ordering number:ENN1049E

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1253/2SC3135

High-h_{FE}, AF Amp Applications

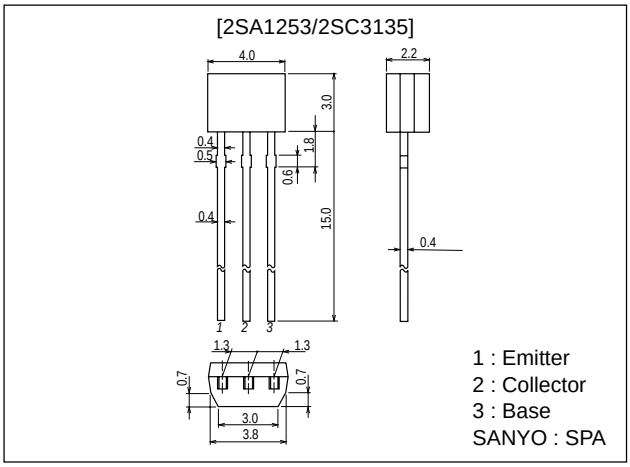
Features

· High V_{EBO}.
· Wide ASO and high durability against breakdown.

Package Dimensions

unit:mm

2033A



( ) : 2SA1253

Specifications

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}		(–)50	V
Emitter-to-Base Voltage	V_{EBO}		(–)15	V
Collector Current	I_C		(–)200	mA
Collector Current (Pulse)	I_{CP}		(–)400	mA
Collector Dissipation	P_C		250	mW
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			(–)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)10V, I_C=0			(–)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(–)6V, I_C=(–)1mA	100*		560*	
Gain-Bandwidth Product	f_T	V_{CE}=(–)6V, I_C=(–)1mA		100		MHz
Common Base Output Capacitance	Cob	V_{CB}=(–)6V, f=1MHz		(3.8) 2.5		pF

* : The 2SA1253/2SC3135 are classified by 1mA h_{FE} as follows :

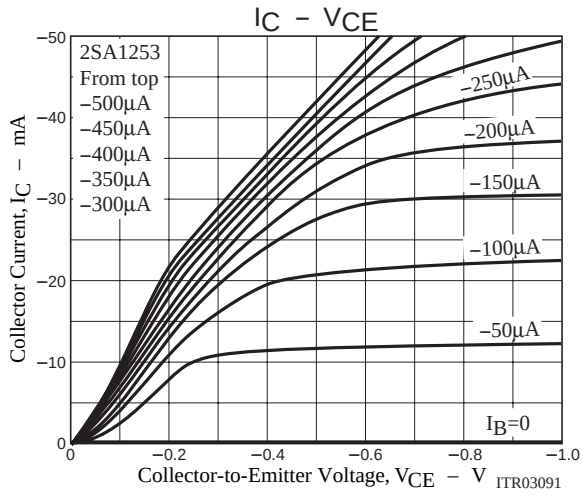
Rank	R	S	T	U
h_{FE}	100 to 200	140 to 280	200 to 400	280 to 560

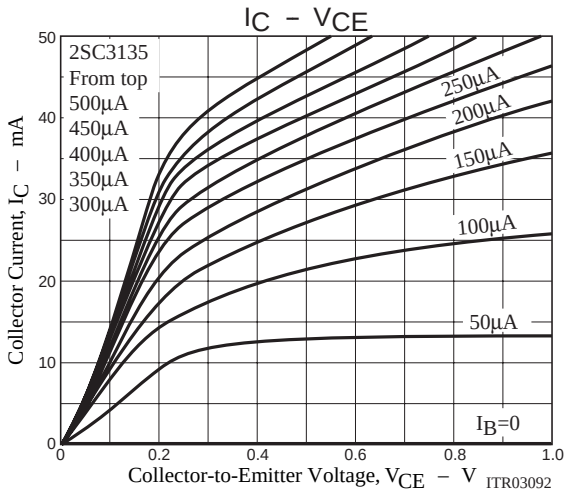
Continued on next page.

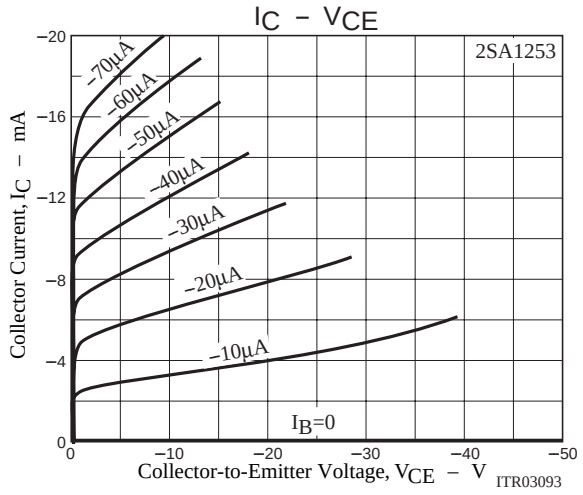
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

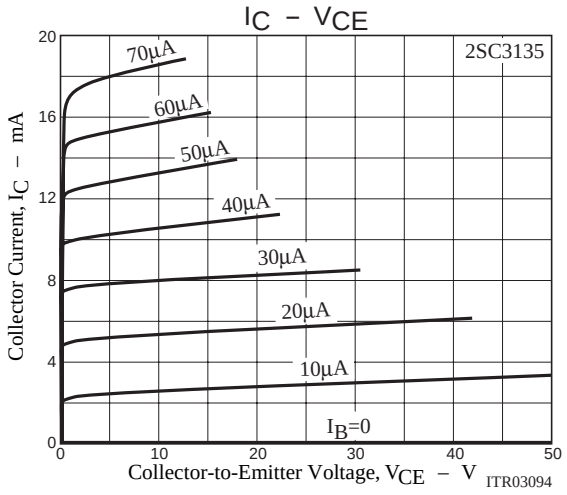
Continued from preceding page.

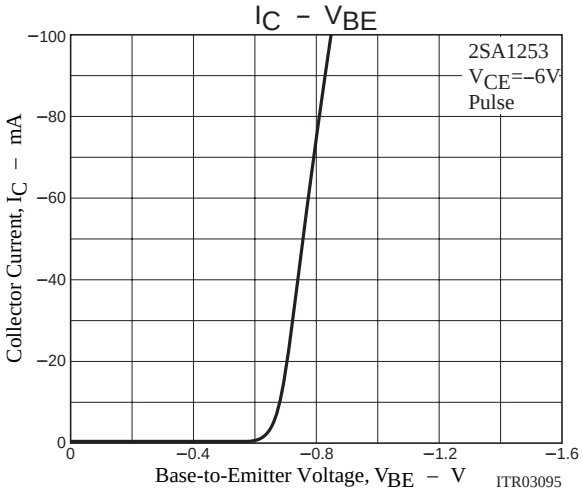
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)50mA, I_B=(–)5mA		(–0.2) 0.15	(–)0.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)15			V

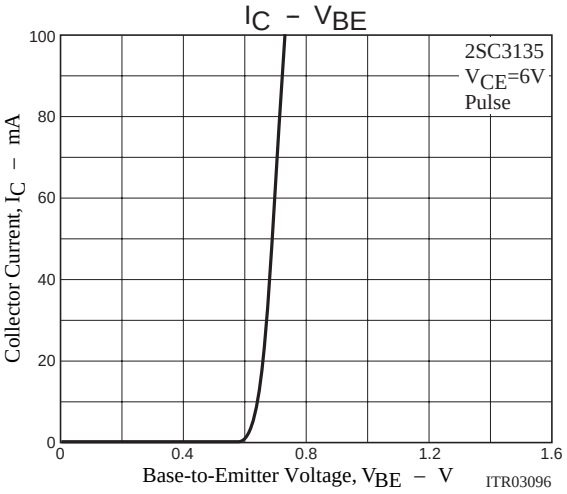


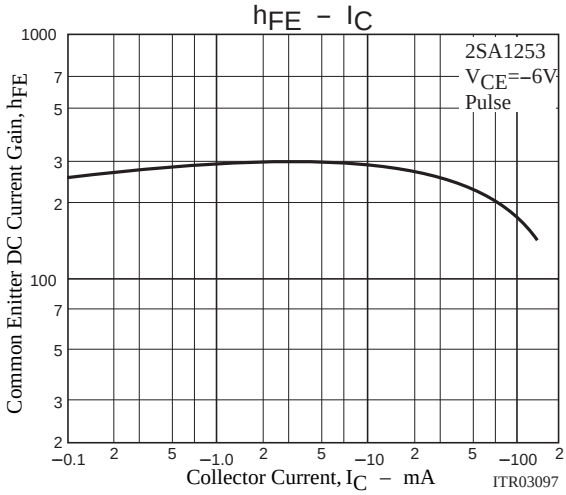


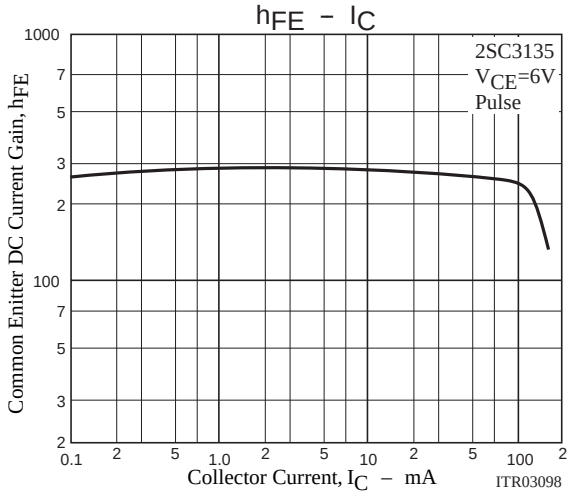


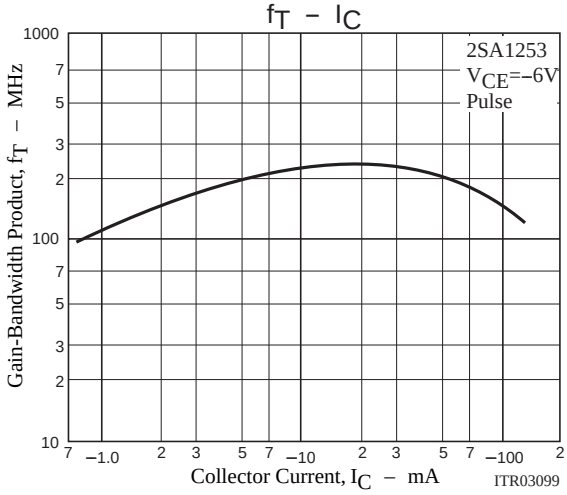


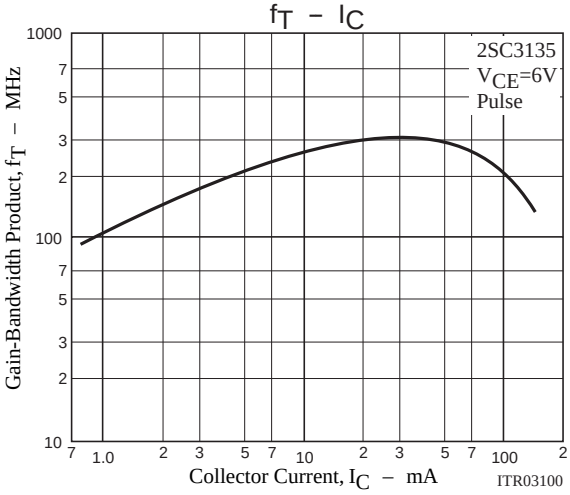


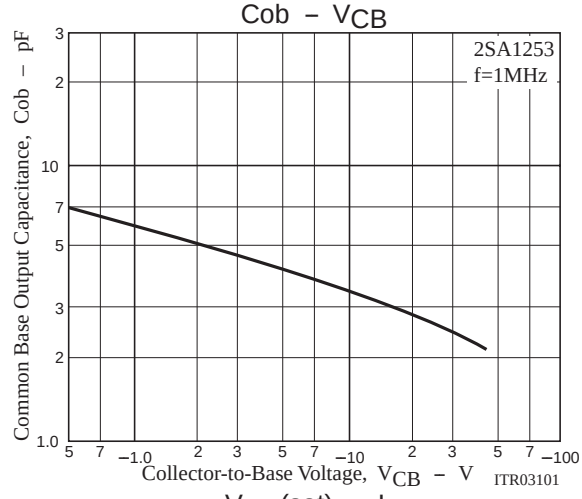


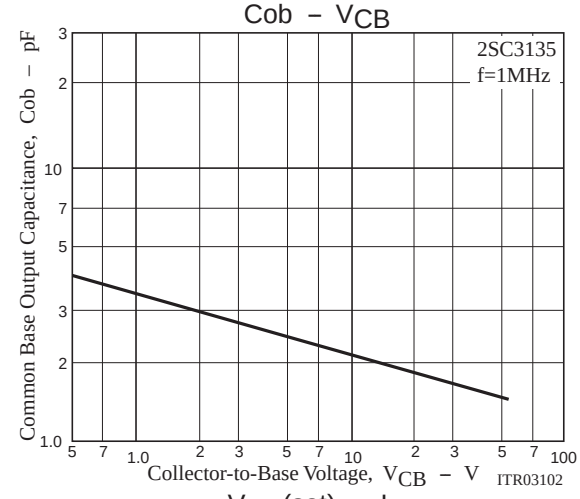

hFE – IC
2SA1253
VCE=–6V
Pulse
Common Enitter DC Current Gain, hFE
Collector Current, IC – mA
ITR03097

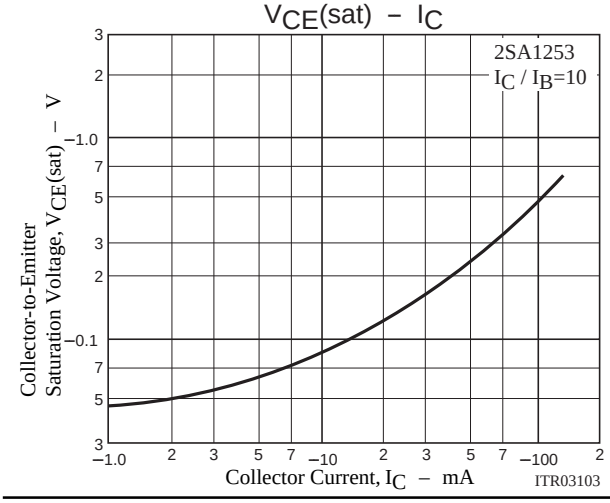

hFE – IC
2SC3135
VCE=6V
Pulse
Common Enitter DC Current Gain, hFE
Collector Current, IC – mA
ITR03098

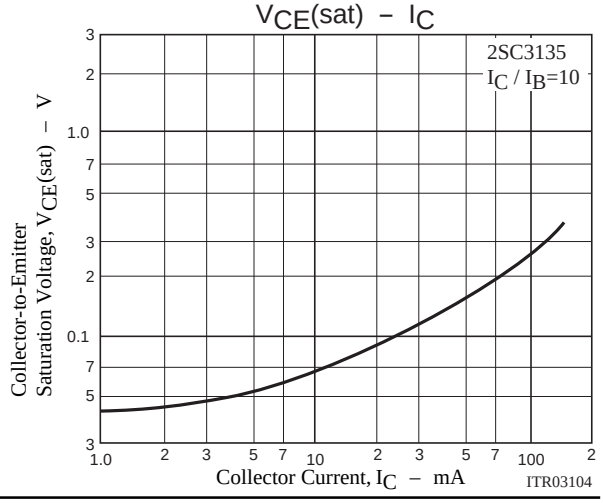

fT – IC
2SA1253
VCE=–6V
Pulse
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
ITR03099


fT – IC
2SC3135
VCE=6V
Pulse
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
ITR03100


Cob – VCB
2SA1253
f=1MHz
Common Base Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
ITR03101


Cob – VCB
2SC3135
f=1MHz
Common Base Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
ITR03102


VCE(sat) – IC
2SA1253
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
ITR03103


VCE(sat) – IC
2SC3135
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
ITR03104