Ordering number:ENN2524A

PNP Epitaxial Planar Silicon Transistor

2SA1437

High-h_{FE}, AF Amplifier Applications

Applications

· AF amplifier, various drivers, muting circuit.

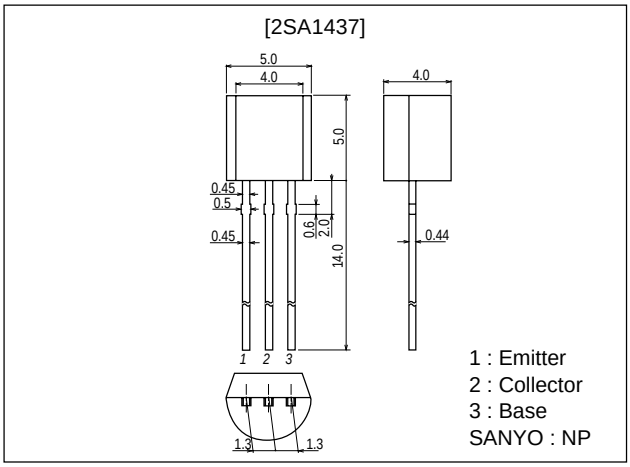
Features

· Ultrasmall-sized package permitting sets to be made smaller and slimer.
· Adoption of FBET process.
· High DC current gain : (h_{FE}=400 to 1000).
· High breakdown voltage : (V_{CEO}≥100V).
· Low collector-to-emitter saturation voltage : ($V_{CE(sat)}$≤0.5V).
· High V_{EBO} : (V_{EBO}≥15V).
· Small C_{ob} : (C_{ob}=4.0pF typ).

Package Dimensions

unit:mm

2003B



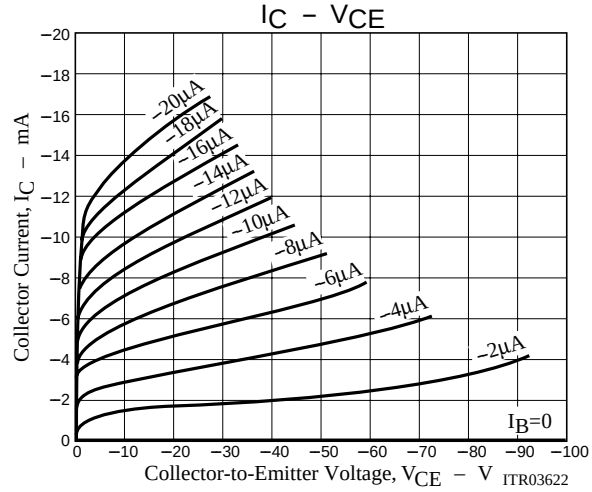
Specifications

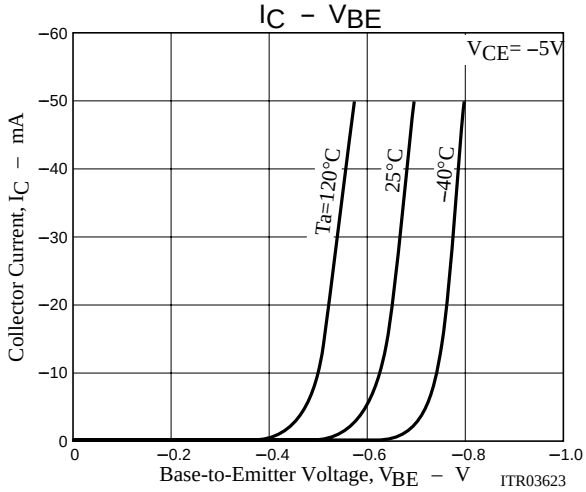
Absolute Maximum Ratings at Ta = 25˚C

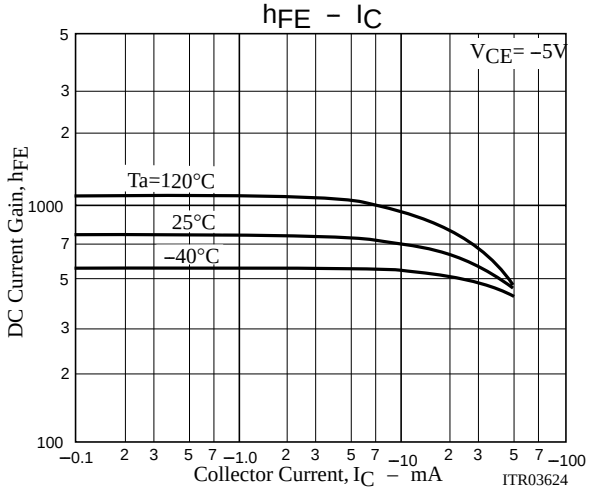
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–120	V
Collector-to-Emitter Voltage	V_{CEO}		–100	V
Emitter-to-Base Voltage	V_{EBO}		–15	V
Collector Current	I_C		–50	mA
Collector Current (Pulse)	I_{CP}		–100	mA
Collector Dissipation	P_C		500	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

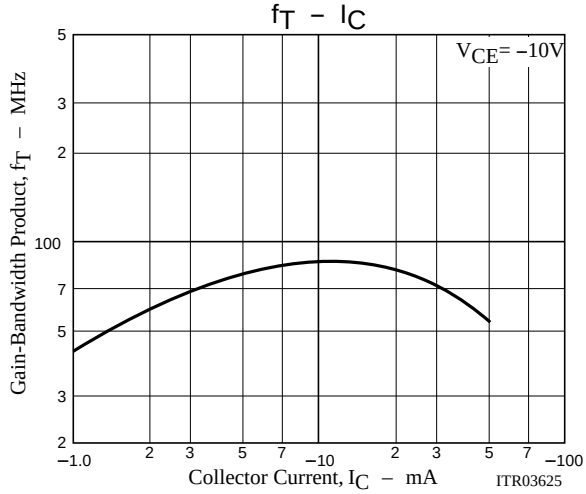
Electrical Characteristics at Ta = 25˚C

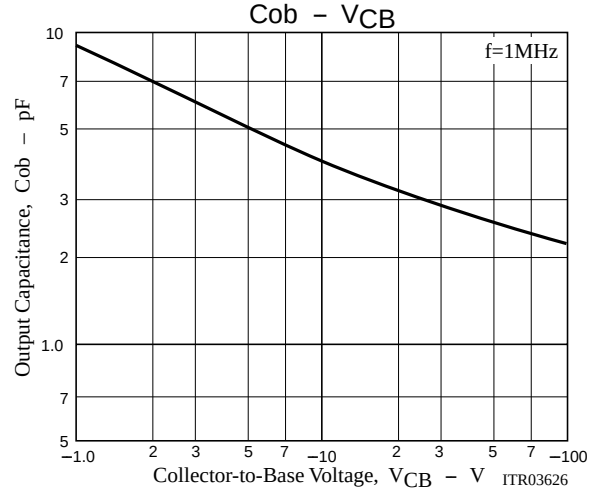
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–80V, I_E=0			–0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–10V, I_C=0			–0.1	μA
DC Current Gain	h_{FE}	V_{CE}=–5V, I_C=–10mA	400	700	1000	
Gain-Bandwidth Product	f_T	V_{CE}=–10V, I_C=–10mA		85		MHz
Output Capacitance	C_{ob}	V_{CB}=–10V, f=1MHz		4.0		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=–10mA, I_B=–0.2mA		–0.18	–0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=–10mA, I_B=–0.2mA		–0.7	–1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	–120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–100			V
Emitter-to-Base Breakdown Votage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	–15			V

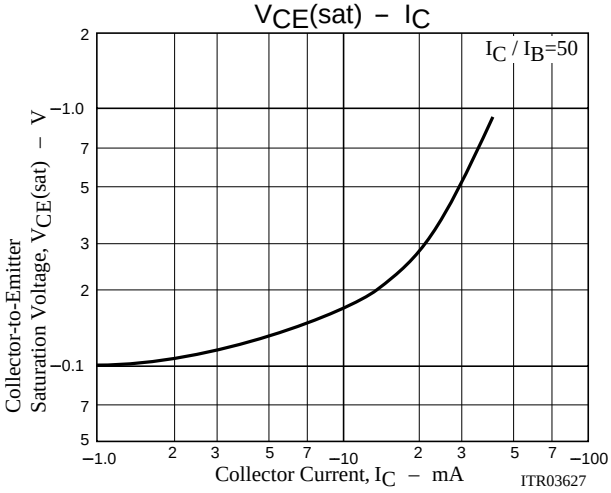

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
ITR03622
–20μA
–18μA
–16μA
–14μA
–12μA
–10μA
–8μA
–6μA
–4μA
–2μA
IB=0

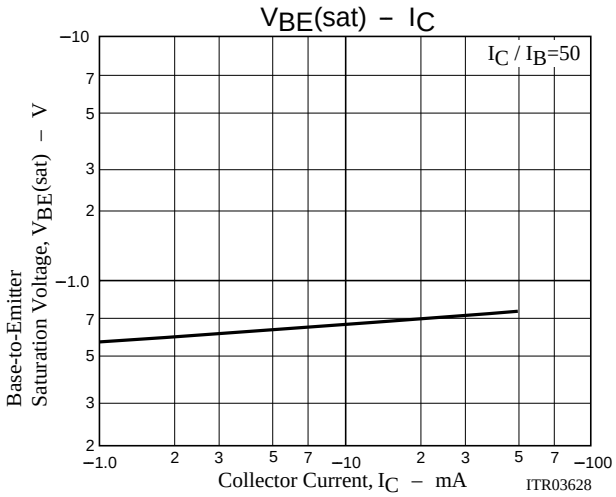

IC – VBE
Collector Current, IC – mA
Base-to-Emitter Voltage, VBE – V
ITR03623
VCE= –5V
Ta=120°C
25°C
–40°C

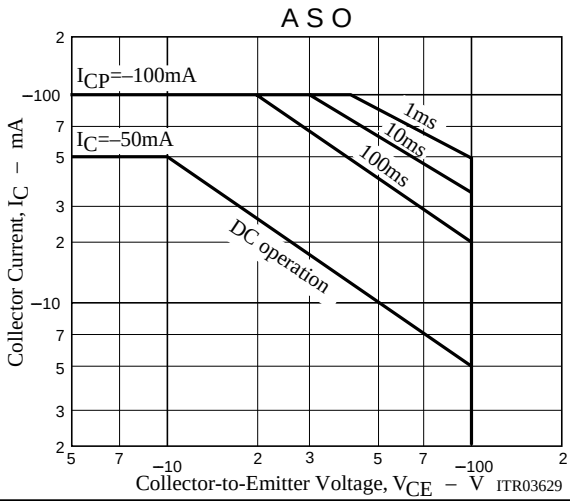

hFE – IC
DC Current Gain, hFE
Collector Current, IC – mA
ITR03624
VCE= –5V
Ta=120°C
25°C
–40°C


fT – IC
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
ITR03625
VCE= –10V


Cob – VCB
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
ITR03626
f=1MHz


VCE(sat) – IC
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
ITR03627
IC / IB=50


VBE(sat) – IC
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – mA
ITR03628
IC / IB=50


A S O
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
ITR03629
ICP=–100mA
IC=–50mA
1ms
10ms
100ms
DC operation