Ordering number: EN 4720

SANYO

No.4720

2SA1865

PNP Epitaxial Planar Silicon Transistor

Muting Circuits, Driver Applications

Features

- On-chip bias resistors (R1 = 10kΩ, R2 = 10kΩ).
- Very small-sized package making 2SA1865-applied sets small and slim.
- Small ON resistance.
- High gain-bandwidth product f_T.

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector-to-Base Voltage	V_{CBO}	−15	V
Collector-to-Emitter Voltage	V_{CEO}	−15	V
Emitter-to-Base Voltage	V_{EBO}	−10	V
Input Voltage	V_{IN}	−14	V
Collector Current	I_C	−100	mA
Collector Current (Pulse)	I_{CP}	−200	mA
Base Current	I_B	−20	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

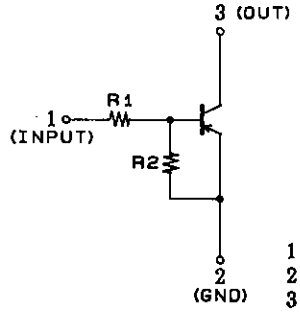
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=-10V, I_E=0$			−0.1	μA
Collector Cutoff Current	I_{CEO}	$V_{CE}=-10V, I_B=0$			−0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-5V, I_C=0$	−195	−250	−360	μA
DC Current Gain	h_{FE}	$V_{CE}=-2V, I_C=-10mA$	50			
Gain-Bandwidth Product	f_T※	$V_{CE}=-5V, I_C=-10mA$		600		MHz
Output Capacitance	Cob※	$V_{CB}=-10V, f=1MHz$		0.9		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-2.5mA, I_B=-0.25mA$		−20	−60	mV
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	−15			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	−15			V
Input OFF-State Voltage	$V_{IN(off)}$	$V_{CE}=-2V, I_C=-100\mu A$	−0.8	−1.2	−1.5	V
Input ON-State Voltage	$V_{IN(on)}$	$V_{CE}=-0.3V, I_C=-10mA$	−1.0	−2.0	−4.0	V
Input Resistance	R1		7.0	10	13	kΩ
Resistance Ratio	R1/R2		0.9	1.0	1.1	
ON Resistance	Ron	$V_{IN}=-5V, f=1MHz$		6.0		Ω

※ : Characteristic of the constituent transistor.

Marking : BA

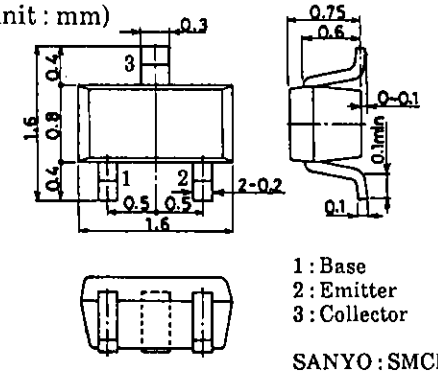
Electrical Connection



1 : Base
2 : Emitter
3 : Collector

Package Dimensions 2106A

(unit : mm)



1 : Base
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SANYO : SMCP

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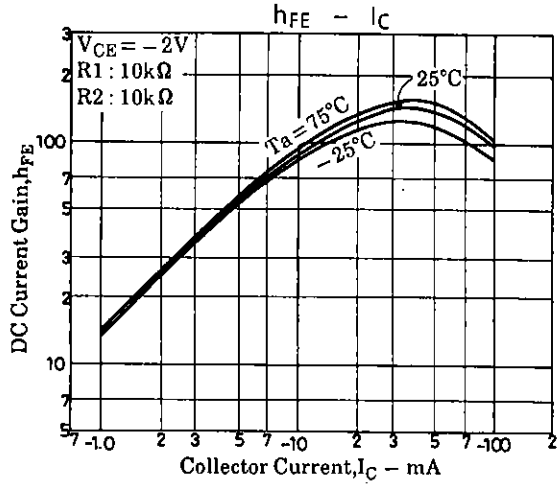
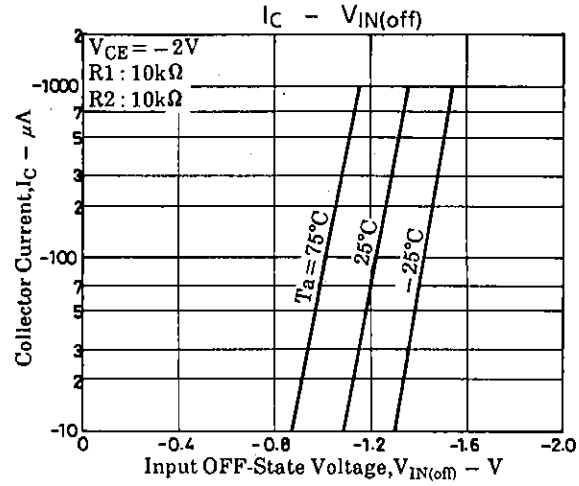
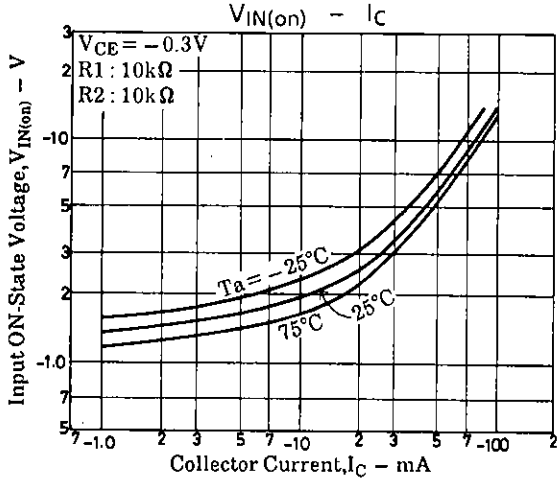
h_{FE} – I_C



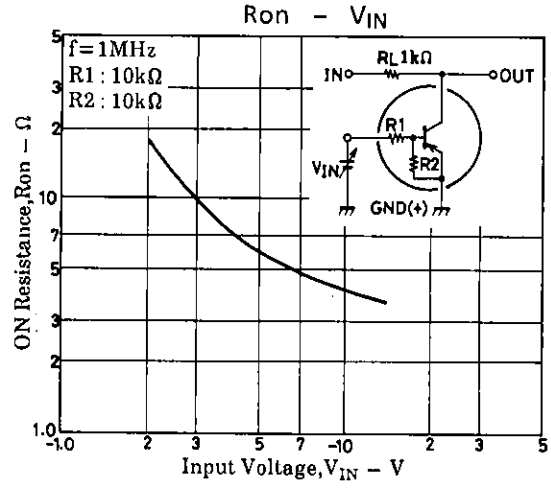
I_C – $V_{IN(off)}$



$V_{IN(on)}$ – I_C



Ron – V_{IN}



P_C – Ta