

No.4766

NPN Epitaxial Planar Silicon Transistor

Muting Circuit, Driver Applications

## **Features**

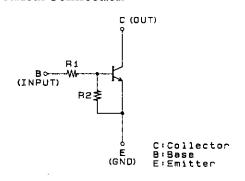
- · High DC current gain.
- · On-chip bias resistance (R1 =  $4.7k\Omega$ , R2 =  $4.7k\Omega$ )
- · Very small-sized package permitting 2SC4920-applied sets to be made smaller and slimmer.
- · Small ON resistance.

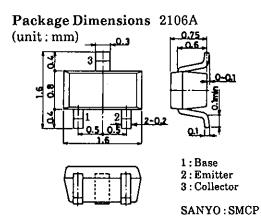
Absolute Maximum Ratings at Ta = 25°C						unit
Collector-to-Base Voltage	$V_{\mathrm{CBO}}$				25	V
Collector-to-Emitter Voltage	$V_{CEO}$				20	V
Emitter-to-Base Voltage	$V_{EBO}$				10	V
Input Voltage	$V_{IN}$				18	V
Collector Current	$I_{\mathbf{C}}$				100	mA
Collector Current (Pulse)	$I_{CP}$				<b>2</b> 00	mA
Base Current	$I_B$				20	mA
Collector Dissipation	$\widetilde{\mathbf{P_C}}$				150	mW
Junction Temperature	Tj				150	$^{\circ}\mathrm{C}$
Storage Temperature	Tstg		-6	-55  to  +150		$^{\circ}\mathrm{C}$
Electrical Characteristics at Ta = 25°C			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 20V, I_E = 0$			0.1	$\mu$ A
Collector Cutoff Current	$I_{CEO}$	$V_{CE} = 15V, I_B = 0$			0.5	$\mu$ A
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	410	532	760	$\mu A$
DC Current Gain	$h_{ m FE}$	$V_{CE} = 2V, I_C = 20mA$	80			
Gain-Bandwidth Product	f <sub>T</sub> *	$V_{CE} = 5V, I_C = 10mA$		240		MHz
Output Capacitance	Cob*	$V_{CB} = 10V, f = 1MHz$		1.4		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 5 \text{mA}, I_B = 0.5 \text{mA}$		10	30	mV
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_{\rm C} = 10  \mu {\rm A}, I_{\rm E} = 0$	25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1 \text{ mA}, R_{BE} = \infty$	20			V
Input OFF-State Voltage	$V_{I(off)}$	$V_{CE} = 2V, I_{C} = 100 \mu A$	0.7	1.1	1.4	V
Input ON-State Voltage	$V_{I(on)}$	$V_{CE} = 0.3V, I_{C} = 20mA$	1.0	1.6	3.0	$\mathbf{v}$
Input Resistance	R1		3.3	4.7	6.1	$\mathbf{k}\Omega$
Resistance Ratio	R1/R2		0.9	1.0	1.1	
ON Resistance	Ron	$V_{IN} = 5V, f = 1MHz$		2.2		$\Omega$

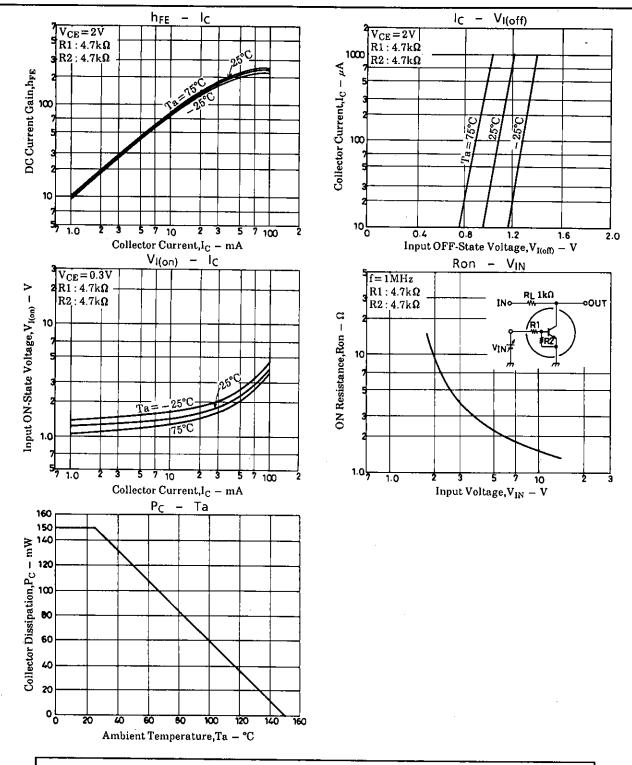
\* Characteristic of the constituent transistor.

Marking: EA

## **Electrical Connection**







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