

NPN Epitaxial Planar Silicon Transistor

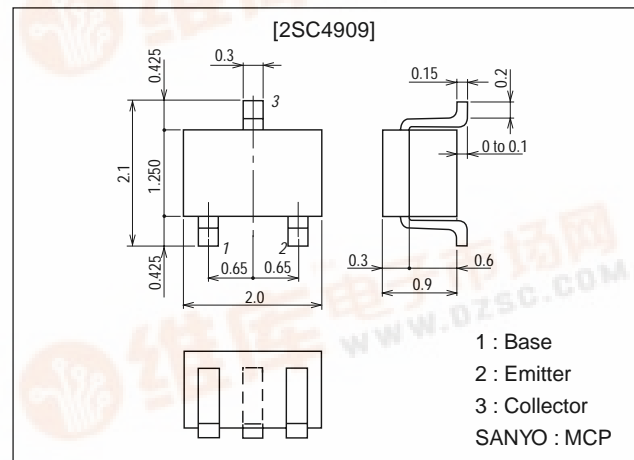
SANYO**2SC4909****Muting Circuits, Drivers****Features**

- High DC current gain.
- On-chip bias resistance ($R_1=47k\Omega$, $R_2=47k\Omega$).
- Very small-sized package permitting 2SC4909-applied sets to be made smaller and slimmer.
- Small ON resistance.

Package Dimensions

unit:mm

2059B

**Specifications****Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{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_C		100	mA
Collector Current (Pulse)	I_{CP}		200	mA
Base Current	I_B		20	mA
Collector Dissipation	P_C		200	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=20\text{V}$, $I_E=0$			0.1	μA
	I_{CEO}	$V_{CE}=15\text{V}$, $I_B=0$			0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$	30	53	80	μA
DC Current Gain	h_{FE}	$V_{CE}=2\text{V}$, $I_C=5\text{mA}$	200			
Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$		240		MHz

Marking : JN

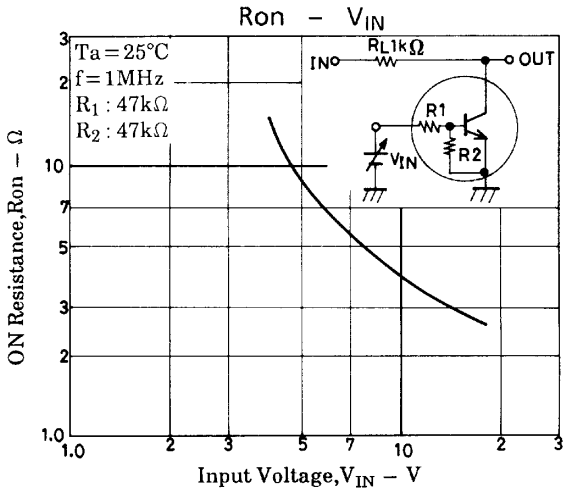
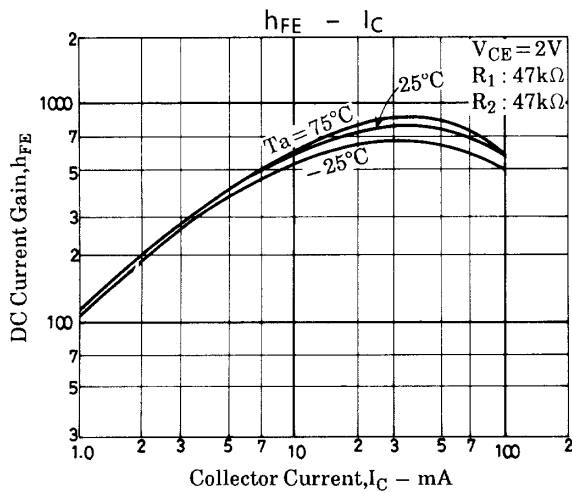
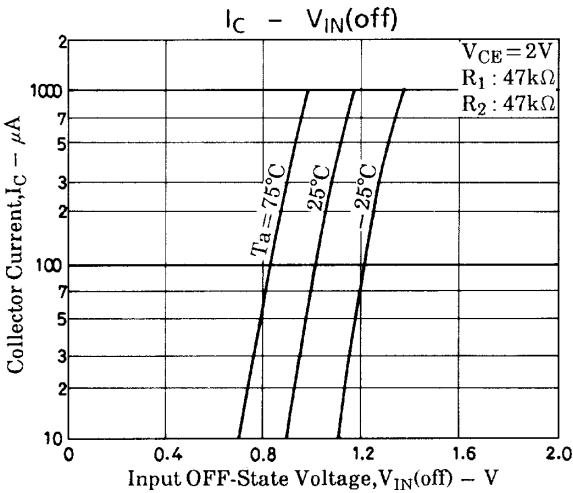
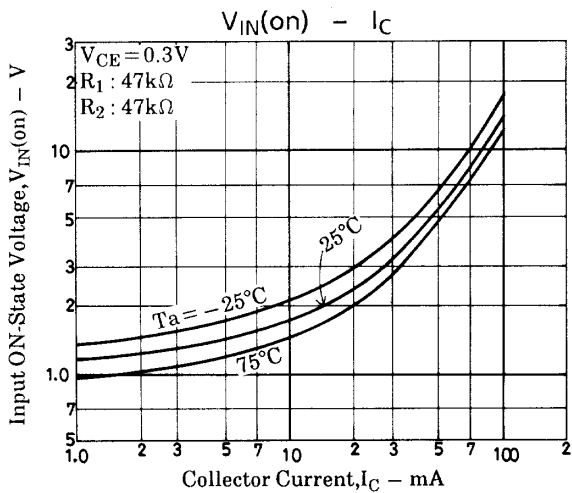
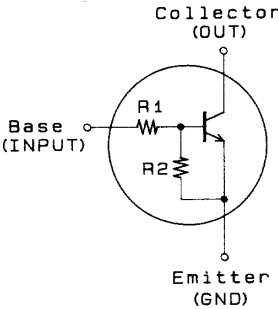
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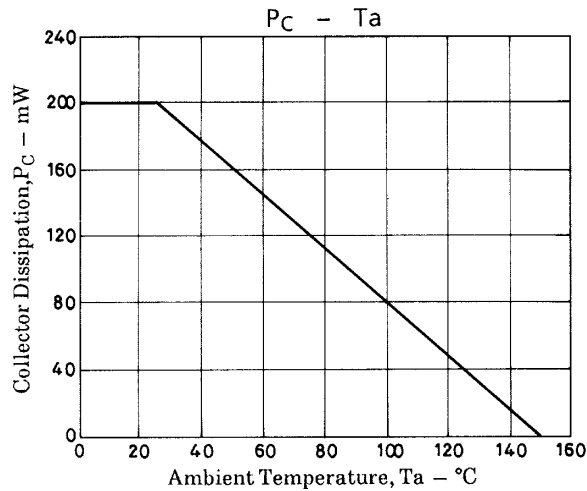
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2mA, I_B=0.2mA$		10	30	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	25			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	20			V
Input OFF-State Voltage	$V_{IN(off)}$	$V_{CE}=2V, I_C=100\mu A$	0.7	1.0	1.4	V
Input ON-State Voltage	$V_{IN(on)}$	$V_{CE}=0.3V, I_C=5mA$	1.0	1.5	3.0	V
Input Resistance	R_1		32	47	62	k Ω
Resistance Ratio	R_1/R_2		0.9	1.0	1.1	
ON Resistance	R_{on}	$V_{IN}=10V, f=1MHz$		4.0		Ω

Electrical Connection



2SC4909



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