Ordering number:ENN1060C

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1249/2SC3117

160V/1.5A Switching Applications

Uses

· Color TV sound output, converters, inverters.

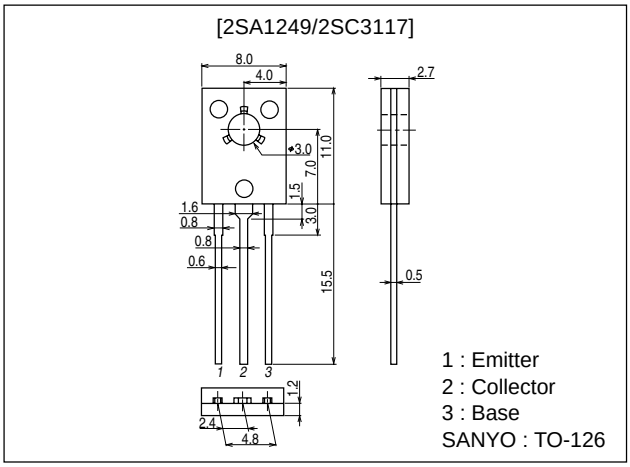
Features

· High breakdown voltage.
· Large current capacity.
· Adoption of MBIT process.

Package Dimensions

unit:mm

2009B



( ) : 2SA1249

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)180	V
Collector-to-Emitter Voltage	V_{CEO}		(–)160	V
Emitter-to-Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)1.5	A
Collector Current (Pulse)	I_{CP}		(–)2.5	A
Collector Dissipation	P_C		1	W
		Tc=25˚C	10	W
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}=(–)120V, I_E=0			(–)1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)1.0	μA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)5V, I_C=(–)100mA	100*		400*	
	$h_{FE}2$	V_{CE}=(–)5V, I_C=(–)10mA	90*			
Gain-Bandwidth Product	f_T	V_{CE}=(–)10V, I_C=(–)50mA		120		MHz

* : 2SA1249/2SC3117 are classified by 100mA h_{FE} as follows:

Continued on next page.

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

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Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		(22)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)500mA, I_B=(–)50mA		(–0.2)	(–0.5)	V
				0.13	0.45	
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)500mA, I_B=(–)50mA		(–)0.85	(–)0.12	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)6			V
Turn-ON Time	t_{on}	See Specified Test Circuit		0.04		μs
Storage Time	t_{stg}	See Specified Test Circuit		(0.7) 1.2		μs
Fall Time	t_f	See Specified Test Circuit		(0.04) 0.08		μs