



2SA1249/2SC3117

160V/1.5A Switching Applications

Uses

- Color TV sound output, converters, inverters.

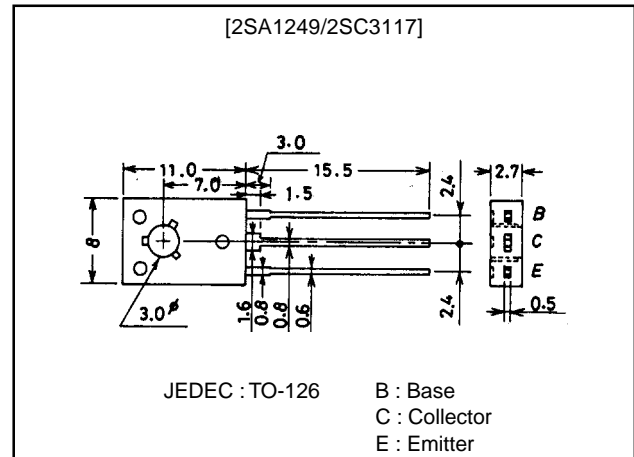
Features

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

Package Dimensions

unit:mm

2009A



() : 2SA1249

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)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
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)120\text{V}, I_E=0$			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)1.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)5\text{V}, I_C=(-)100\text{mA}$	100*		400*	
	h_{FE2}	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$	90*			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(22)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500\text{mA}, I_B=(-)50\text{mA}$		(-0.2)	(-0.5)	V
				0.13	0.45	
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500\text{mA}, I_B=(-)50\text{mA}$		(-)0.85	(-)0.12	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}, I_C=0$	(-)6			V
Turn-ON Time	t_{on}	See Specified Test Circuit		0.04		μs
Storage Time	t_{stg}	See Specified Test Circuit		(0.7)		μs
				1.2		
Fall Time	t_f	See Specified Test Circuit		(0.04)		μs
				0.08		

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

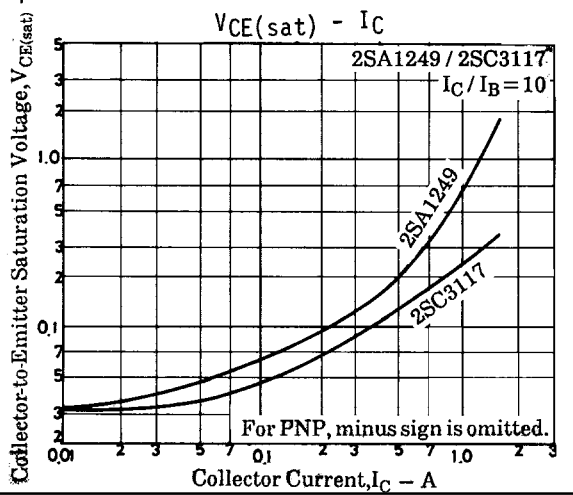
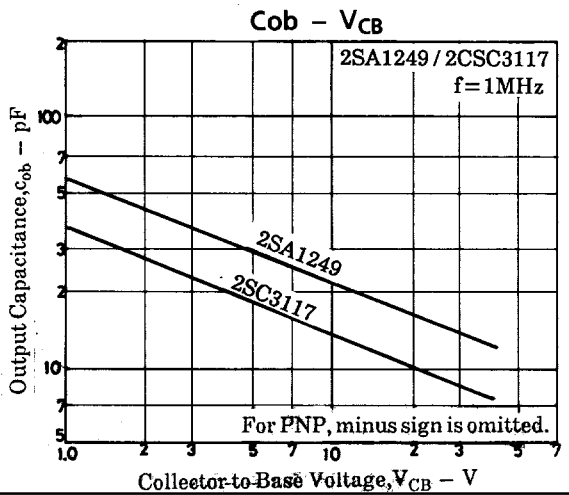
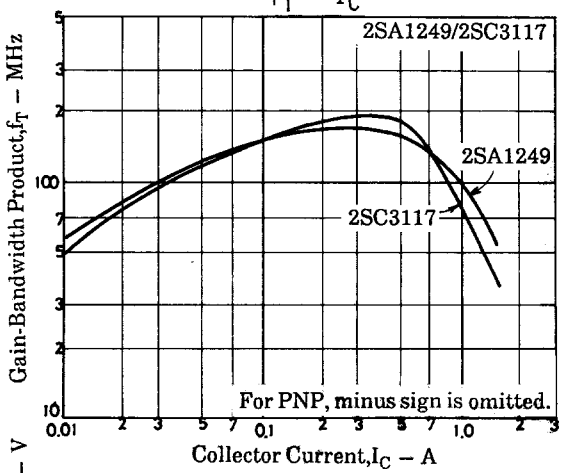
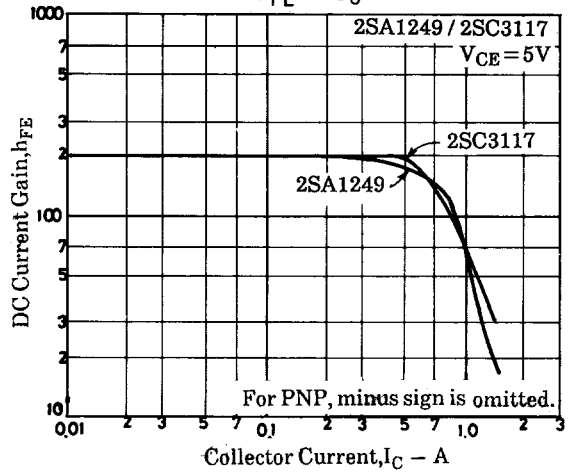
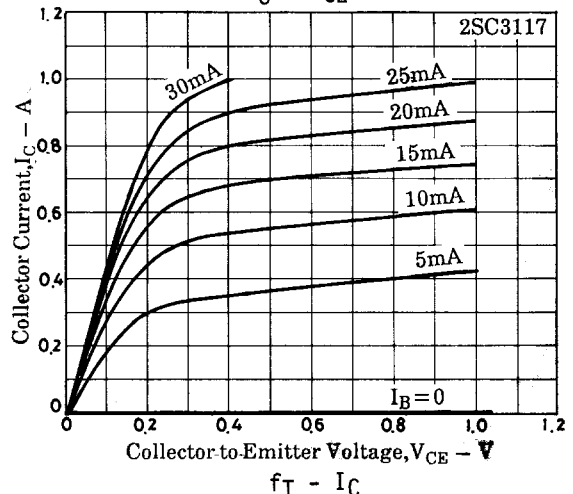
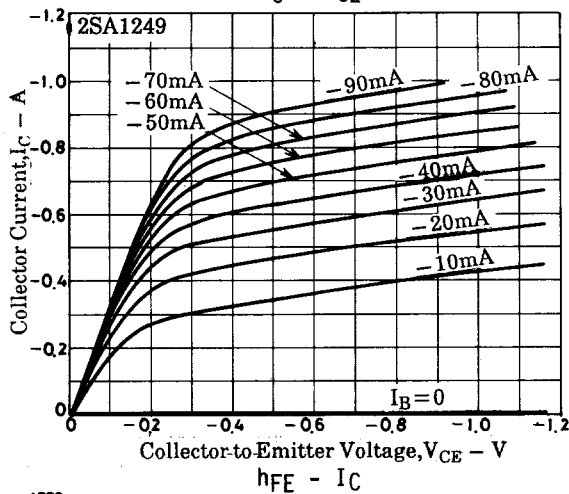
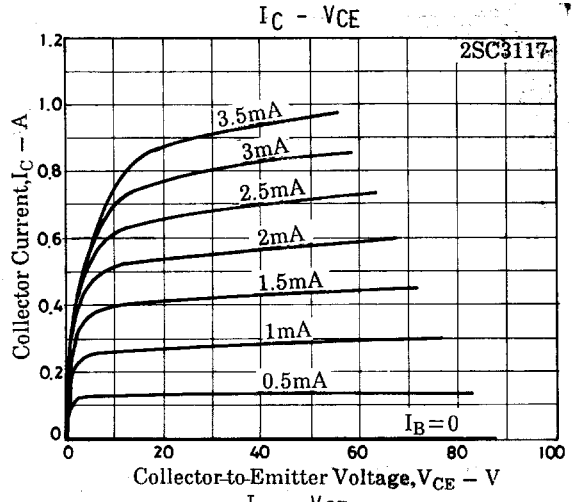
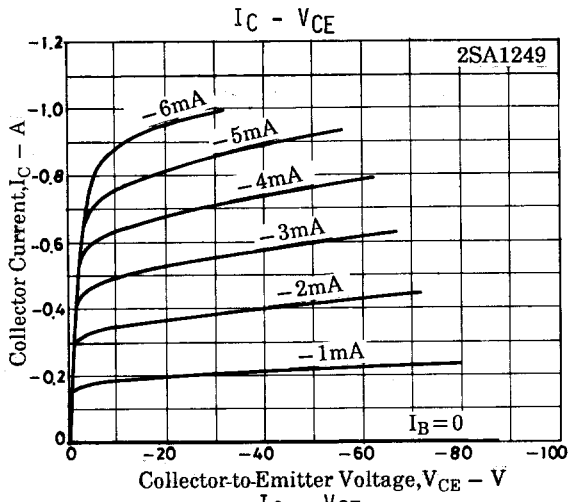
100 R	200	140 S	280	200 T	400
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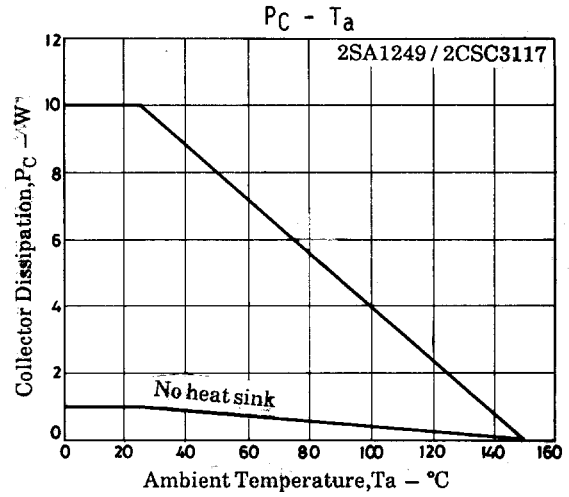
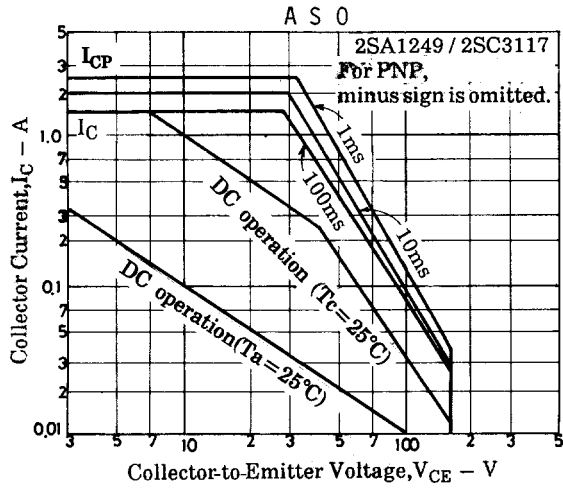
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