

SANYO

No.1032A

2SA1248/2SC3116

PNP/NPN Epitaxial Planar Silicon Transistors

160V/700mA Switching Applications**Uses**

- Color TV sound output, converters, inverters

Features

- High breakdown voltage
- Large current capacity
- Using MBIT process

(): 2SA1248

Absolute Maximum Ratings/ $T_a=25^\circ\text{C}$

Absolute Maximum Ratings/T _a =25°C			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	(-)0.7	A	
Collector Current (Pulse)	I _{CP}	(-)1.5	A	
Collector Dissipation	P _C	1	W	
		T _C =25°C	10	W
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{sta}	-55 to +150	°C	

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

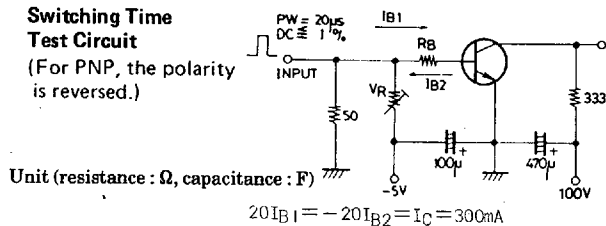
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)120\text{V}, I_E=0$			(-) 1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-) 1.0	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)5\text{V}, I_C=(-)100\text{mA}$	100^*		400^*	
	$h_{FE}(2)$	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$	90			
Gain-bandwidth product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		120		MHz
Common Base Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		8		pF
				(11)		
Collector-to-Emitter Saturation	$V_{CE(sat)}$	$I_C=(-)250\text{mA}, I_B=(-)25\text{mA}$		0.12	0.4	V
				(-) 0.2	(-) 0.5	
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)250\text{mA}, I_B=(-)25\text{mA}$			(-) 0.85 (-) 1.2	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.		(60)50		ns
Storage Time	t_{stg}	See specified test circuit.		(900)1000		ns
Fall Time	t_f	See specified test circuit.		(60)60		ns

* The 2SA1248/2SC3116 are classified as follows according to h_{FE} at 100mA.

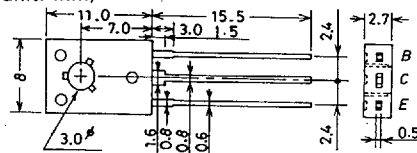
100	R	200	140	S	280	200	T	400
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Switching Time Test Circuit

(For PNP, the polarity is reversed.)

**Package Dimensions 2009A**

(unit: mm)



JEDEC: TO-126

B: Base
C: Collector
E: Emitter

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