PNP/NPN Epitaxial Planar Silicon Transistors



2SA1824/2SC4728

50V/5A Switching Applications

Applications

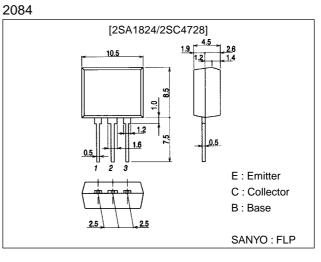
• Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- · Low collector-to-emitter saturation voltage.
- · High Gain-Bandwidth Product.
- · Excellent linearity of DC Current Gain.
- · Fast switching speed.

Package Dimensions

unit:mm



():2SA1824

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(–)60	V
Collector-to-Emitter Voltage	VCEO		(–)50	V
Emitter-to-Base Voltage	VEBO		(-)6	V
Collector Current	IC		(–)5	A
Collector Current (Pulse)	ICP		(-)8	Α
Base Current	IB		()1	A
Collector Dissipation	PC		1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
Falanetei			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)40V, I _E =0			(–)1	μA
Emitter Cutoff Current	IEBO	V _{EB} =(-)4V, I _C =0			(–)1	μA
DC Current Gain	h _{FE} 1	V _{CE} =(-)2V, I _C =(-)500mA	100*		400*	
	h _{FE} 2	V _{CE} =(-)2V, I _C =(-)4A	35			
Gain-Bandwidth Product	fT	V _{CE} =(-)5V, I _C =(-)1A		(130)		MHz
				180		MHz
Output Capacitance	Cob	V _{CB} =(-)10V, f=1MHz		(60)40		pF

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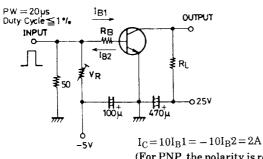
SANYO Electric Co., Ltd. Semiconductor Bussiness Headquaters TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)3A, I _B =(-)0.15A		(-280)	(550)	mV
				220	400	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)3mA, I _B =(-)0.15A		(–)0.95	(–)1.3	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =(-)10μA, I _E =0	(–)60			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =(−)1mA, R _{BE} =∞	(–)50			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)10μA, I _C =0	(–)6			V
Turn-ON Time	ton	See specified Test Circuit		50		ns
Storage Time	t _{stg}	See specified Test CIrcuit		(450)		ns
	_			500		ns
Fall Time	t _f	See specified Test Circuit		20		ns

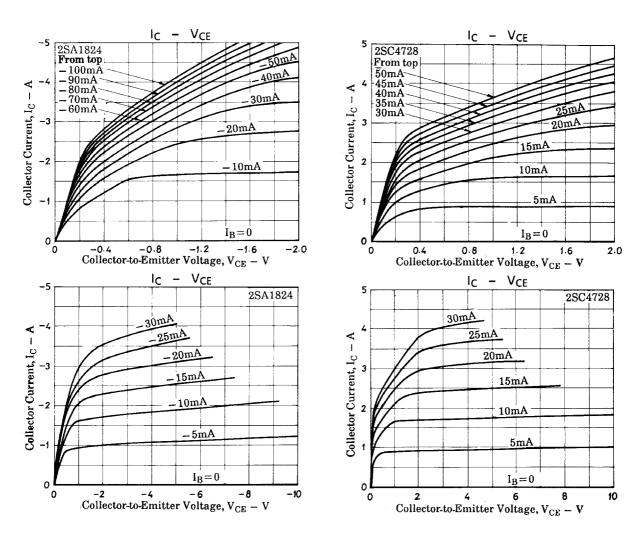
* : The 2SA1824/2SC4728 are classified by 500mA $h_{FE} \mbox{ as follows}$:

100 R 200 140 S 280 200 T 400

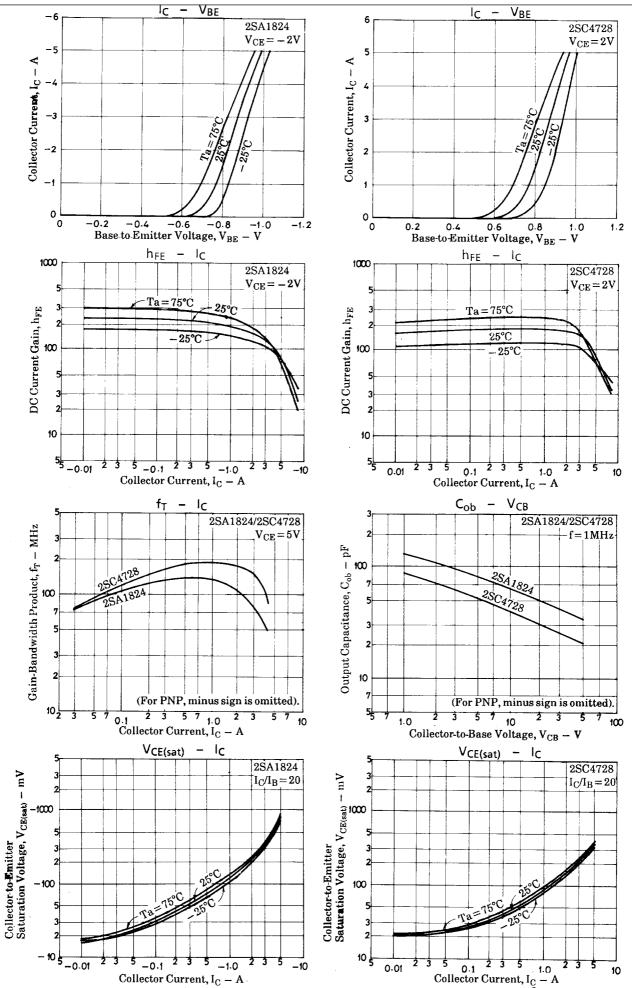
Switching Time Test Circuit

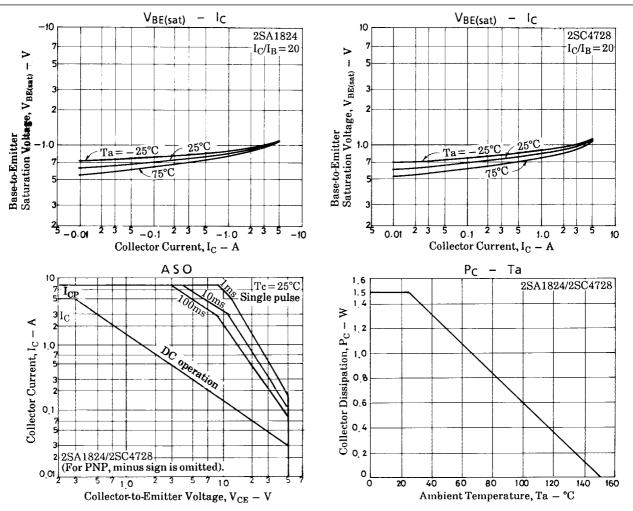


(For PNP, the polarity is reversed). Unit (resistance : Ω , capacitance : F)



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