

2SA1784/2SC4644

High Voltage Driver Applications

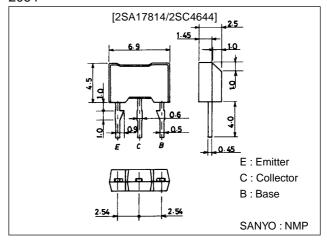
Features

- · Adoption of MBIT process.
- · High breakdown voltage (V_{CEO}≥400V).
- · Excellent linearity of hFE.

Package Dimensions

unit:mm

2064



(): 2SA1784

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-)400	V
Collector-to-Emitter Voltage	V _{CEO}		(-)400	V
Emitter-to-Base Voltage	V _{EBO}		(-)5	V
Collector Current	IC		(-)200	mA
Colletor Current (Pulse)	I _{CP}		(-)400	mA
Collector Dissipation	PC		1	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
Faranietei		Conditions		typ	max	Uill
Collector Cutoff Current	ICBO	V _{CB} =(-)300V, I _E =0			(-)0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)0.1	μA
DC Current Gain	hFE	V _{CE} =(-)10V, I _C =(-)50mA			200*	
Gain-Bandwidth Product	fT	V _{CE} =(-)30V, I _C =(-)10mA		70		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)30V, f=1MHz		(5)4		pF
Reverse Transfer Capacitance	Cre	V _{CB} =(-)30V, f=1MHz		(4)3		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	I _C =(-)50mA, I _B =(-)5mA			(-0.8)	V
					0.6	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)50mA, I _B =(-)5mA			(-)1.0	V

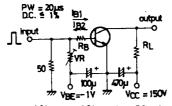
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Parameter	Symbol	Conditions	Ratings			Unit
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Collector-to-Base Breakdown Voltage	V _(BR) CBO	$I_{C}=(-)10\mu A, I_{E}=0$	(-)400			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =(-)1mA, R _{BE} =∞	(-)400			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	$I_{E}=(-)10\mu A, I_{C}=0$	(–)5			V
Turn-ON Time	ton	See specified Test Circuit		0.25		μs
Turn-OFF Time	toff	See specified Test Circuit		5.0		μs

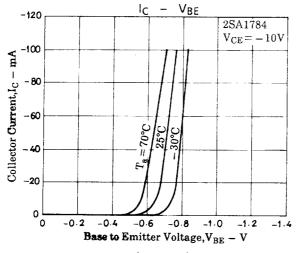
 $[\]ast$: The 2SA1784/2SC4644 are classified by 50mA h_{FE} as follows :

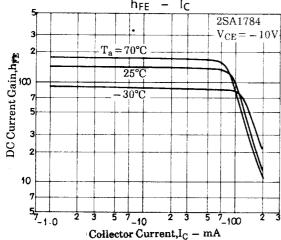
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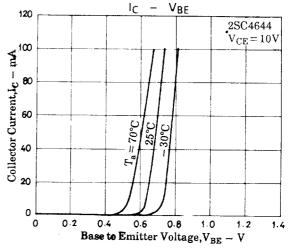
Switching Time Test Circuit

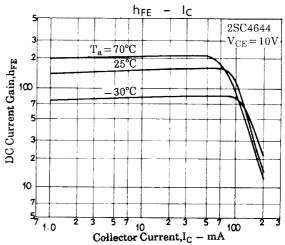


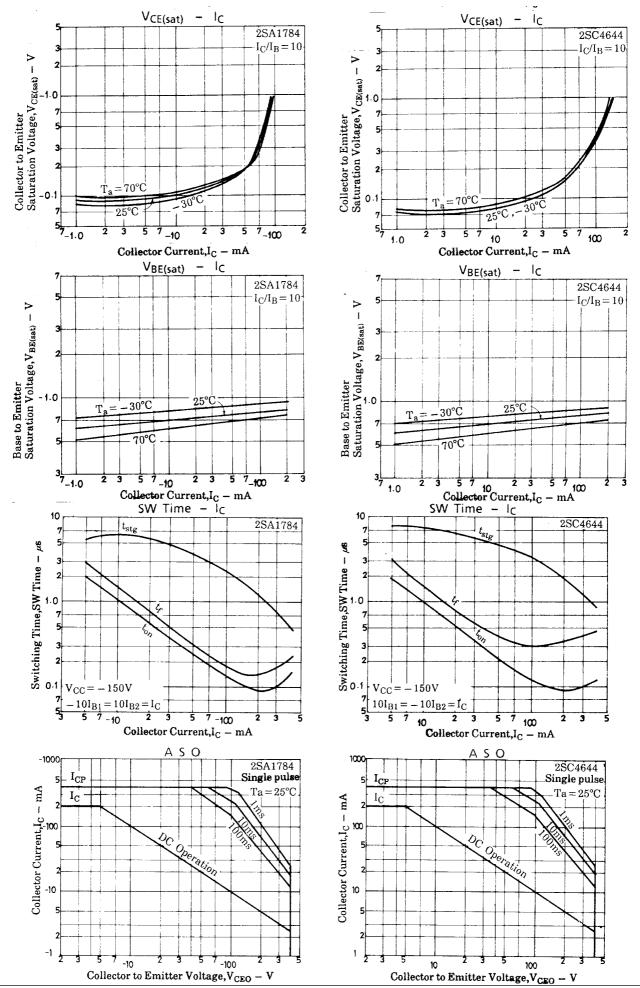
10I_{B1} = - 10I_{B2} = I_C = 50mA R_L=3k Ω , R_B=200 Ω , at I_C=50mA (For PNP, the polarity is reversed) Unit (resistance : Ω , capacitance : F)

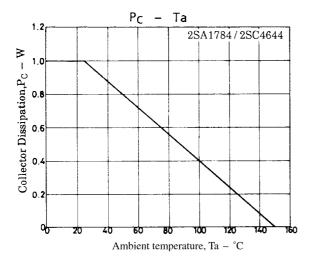












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