

2SB1216/2SD1816

High-Current Switching Applications

Applications

 Suitable for relay drivers, high-speed inverters, converters, and other general high-current switching applications.

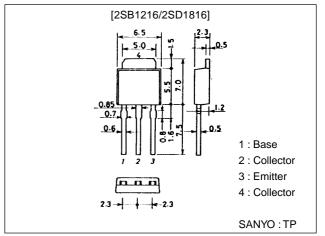
Features

- · Low collector-to-emitter saturation voltage.
- · Good linearity of hFF.
- · Small and slim package facilitating compactness of sets.
- · High f_T.
- · Fast switching time.

Package Dimensions

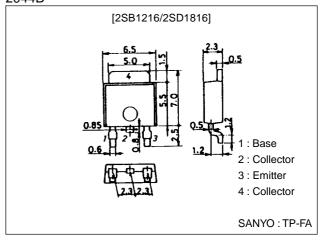
unit:mm

2045B



unit:mm

2044B



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():2SB1216

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-)120	V
Collector-to-Emitter Voltage	V _{CEO}		(–)100	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	lc		(-)4	А
Collector Current (Pulse)	l _{CP}		(-)8	А
Collector Dissipation	PC		1	W
		Tc=25°C	20	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

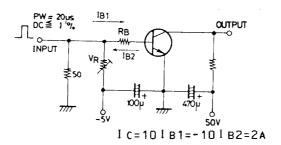
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Unit		
Falametei	Symbol	Conditions	min	typ	max	Offic
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)100V, I _E =0			(–)1	μΑ
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(–)1	μΑ
DC Current Gain	h _{FE} 1	V _{CE} =(-)5V, I _C =(-)0.5A	70*		400*	
	h _{FE} 2	V _{CE} =(-)5V, I _C =(-)3A	40			
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)0.5A		(130)		MHz
				180		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(65)40		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	I _C =(-)2A, I _B =(-)0.2A		150	400	mV
				(-200)	(-500)	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)2A, I _B =(-)0.2A		(-)0.9	(–)1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =(-)10μA, I _E =0	(–)120			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =(-)1mA, R _{BE} =∞	(–)100			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		100		ns
Storage Time	t _{stg}	See specified Test Circuit		(800)		ns
				900		ns
Fall Time	t _f	See specified Test Circuit		50		ns

 $[\]ast$: The 2SB1216/2SD1816 are classified by 0.5A h_{FE} as follows :

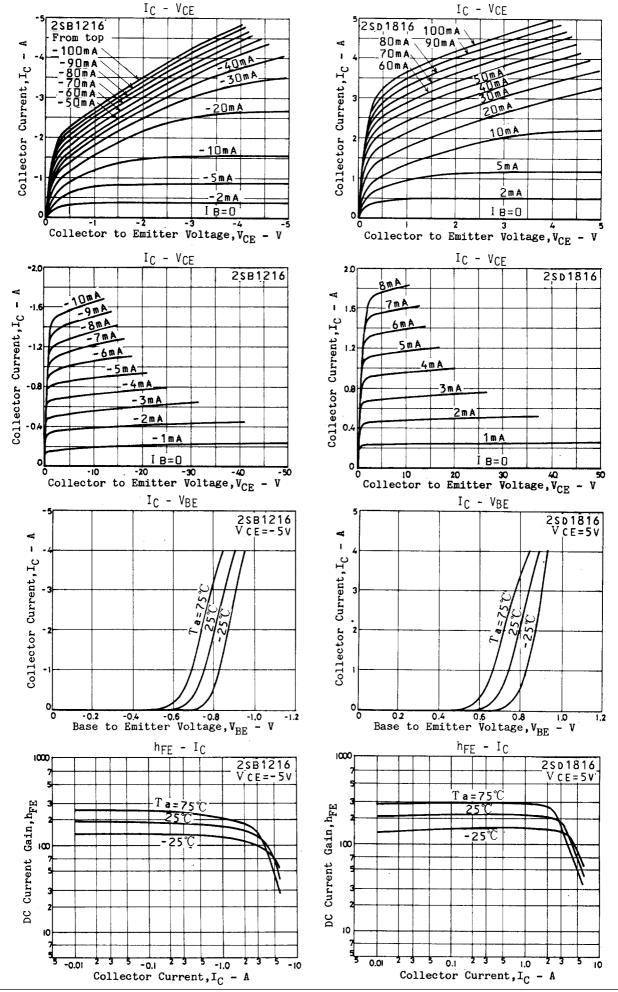
70	Q	140	100	R	200	140	S	280	200	Т	400
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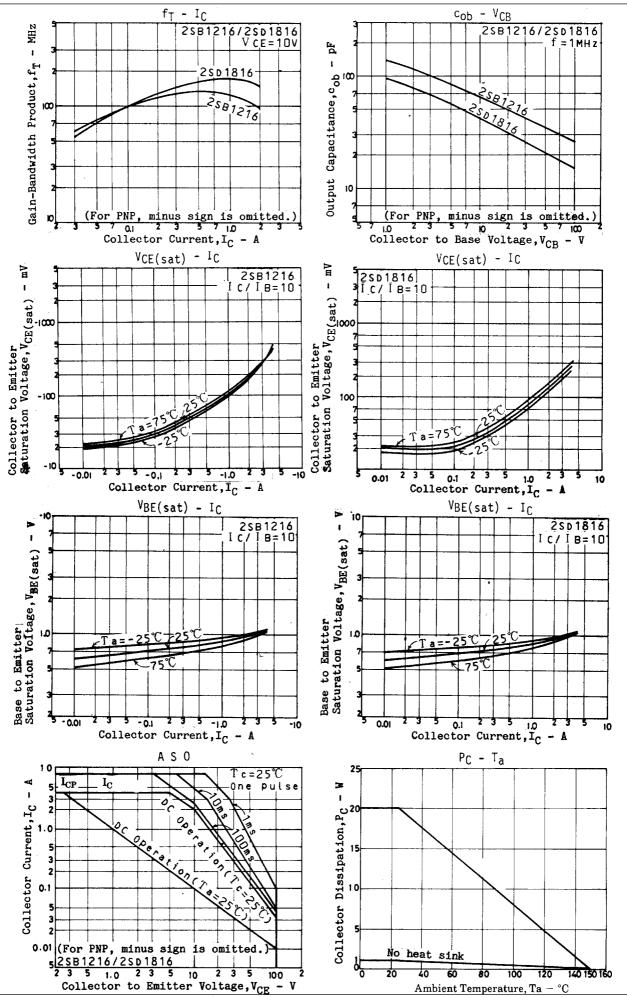
Switching Time Test Circuit



(For PNP, minus sign is omitted.)
Unit (resistance: Ω, capacitance: F)

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