

2SB1215/2SD1815

High-Current Switching Applications

Applications

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

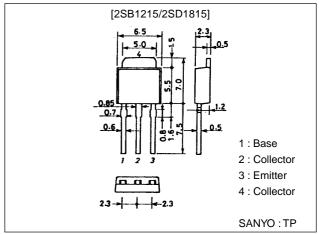
Features

- · Low collector-to-emitter saturation voltage.
- · Excllent linearity of h_{FE}.
- · Small-sized package permitting 2SB1215/2SD1815-applied sets to be made small and slim.
- · High f_T.
- · Fast switching time.

Package Dimensions

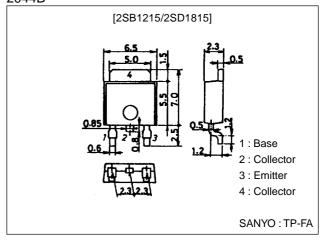
unit:mm

2045B



unit:mm

2044B



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(): 2SB1215

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	IC		(-)3	Α
Collector Current (Pulse)	I _{CP}		(-)6	Α
Collector Dissipation	PC		1	W
		Tc=25°C	20	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

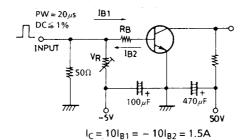
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)100V, I _E =0			(-)1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)1	μA
DC Current Gain	h _{FE} 1	V _{CE} =(-)5V, I _C =(-)0.5A	70*		400*	
	h _{FE} 2	V _{CE} =(-)5V, I _C =(-)2A	40			
Gain-Bandwidth Product	fT	V _{CE} =(-)10V, I _C =(-)0.5A		(130)		MHz
				180		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(40)25		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)1.5A, I _B =(-)0.15A		150	400	mV
				(-200)	(-500)	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)1.5A, I _B =(-)0.15A		(–)0.9	(-)1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)10μΑ, 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 =(-)10μΑ, 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 2SB1215/2SD1815 are classified by 100mA h_{FE} as follows :

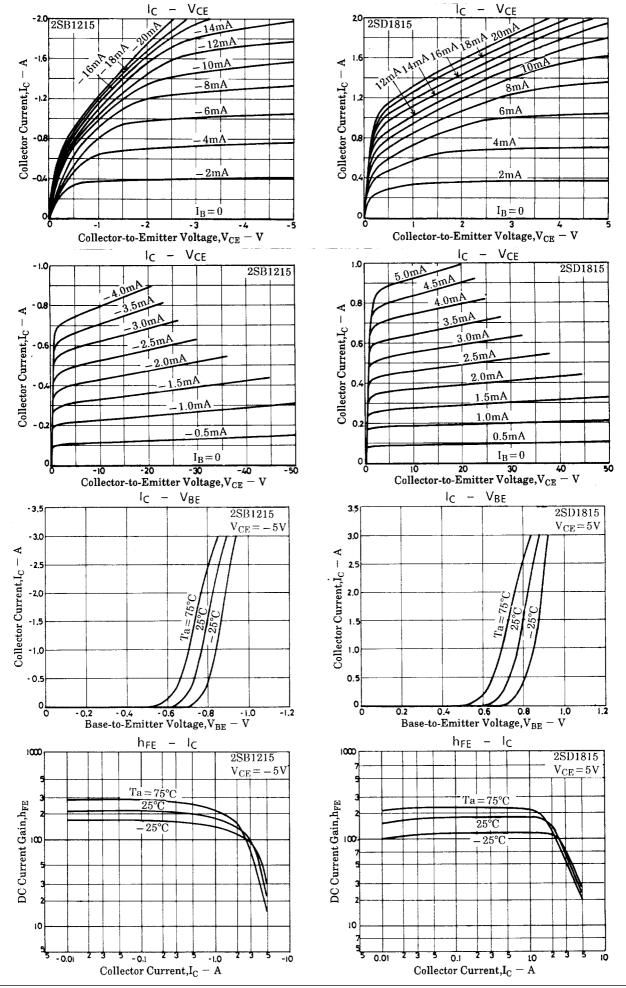
70 Q 140 100 R 200	140 S 280	200 T 400
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Switching Time Test Circuit

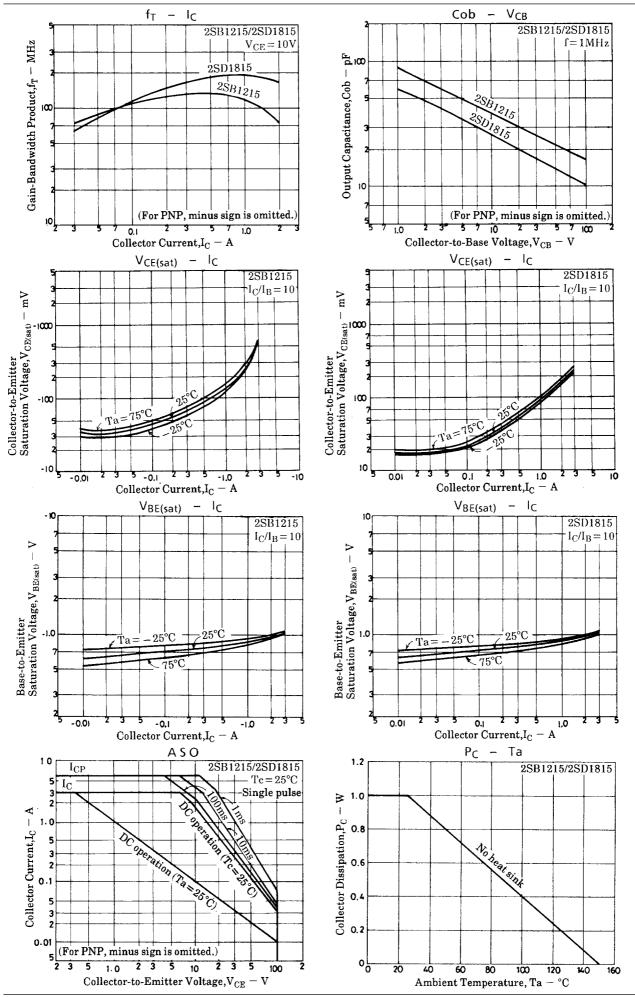


(For PNP, the polarity is reversed.)

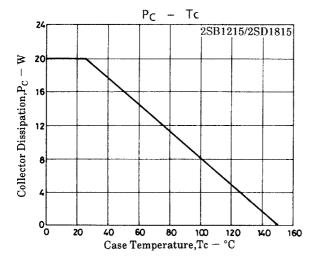
Unit (resistance : Ω , capacitance : F)



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