

SANYO	No.2115B	2SD1805
	NPN Epitaxial Planar Silicon Transistor High-Current Switching Applications	

Applications

- Strobes, voltage regulators, relay drivers, lamp drivers

Features

- Low saturation voltage
- Fast switching time
- Large current capacity
- Small and slim package making it easy to make 2SD1805-applied sets smaller

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V _{CB0}	60	V
Collector to Emitter Voltage	V _{CEO}	20	V
Emitter to Base Voltage	V _{EBO}	6	V
Collector Current	I _C	5	A
Collector Current(Pulse)	I _{CP}	8	A
Collector Dissipation	P _C	1	W
		15	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I _{CBO}	V _{CB} = 50V, I _E = 0			100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} = 5V, I _C = 0			100	nA
DC Current Gain	h _{FE} (1)	V _{CE} = 2V, I _C = 500mA	120*		560*	
	h _{FE} (2)	V _{CE} = 2V, I _C = 3A	95			
Gain-Bandwidth Product	f _T	V _{CE} = 10V, I _C = 50mA		120		MHz
Output Capacitance	c _{ob}	V _{CB} = 10V, f = 1MHz		45		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C = 3A, I _B = 60mA		220	500	mV
B-E Saturation Voltage	V _{BE(sat)}	I _C = 3A, I _B = 60mA			1.5	V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	60			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	20			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	6			V

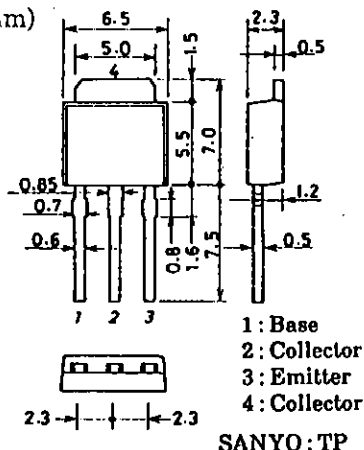
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*: The 2SD1805 is classified by 500mA h_{FE} as follows:

120	E	200	160	F	320	280	G	560
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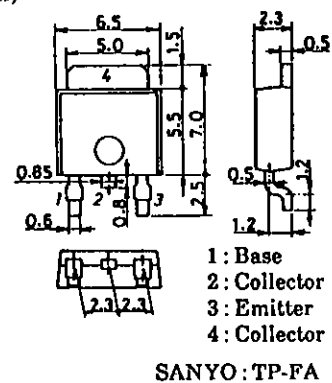
Package Dimensions 2045B

(unit: mm)



Package Dimensions 2044B

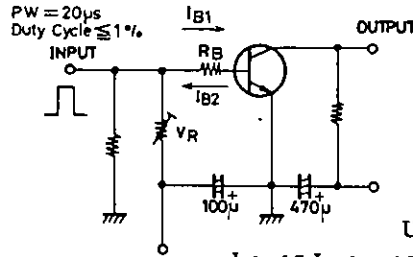
(unit: mm)



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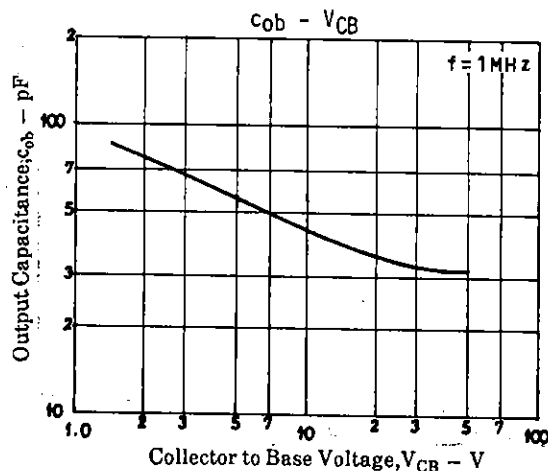
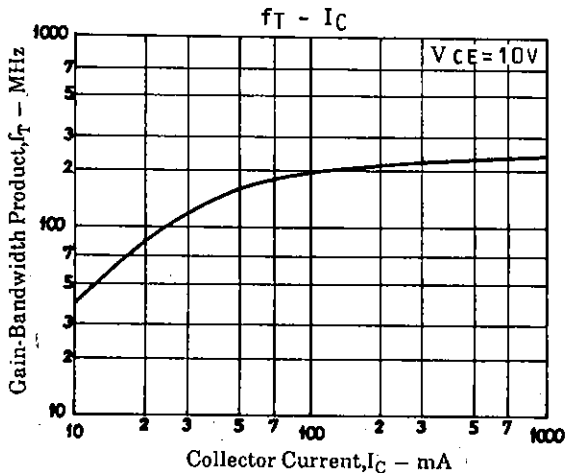
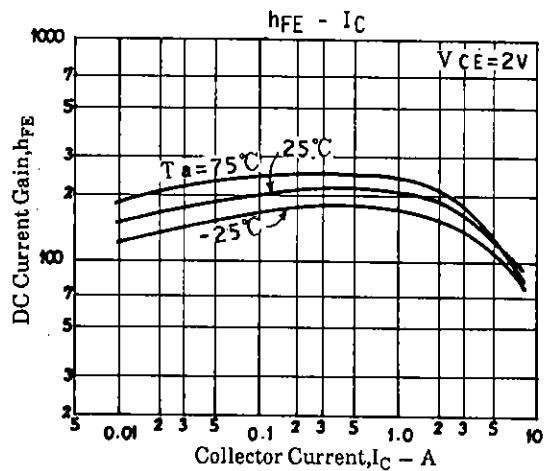
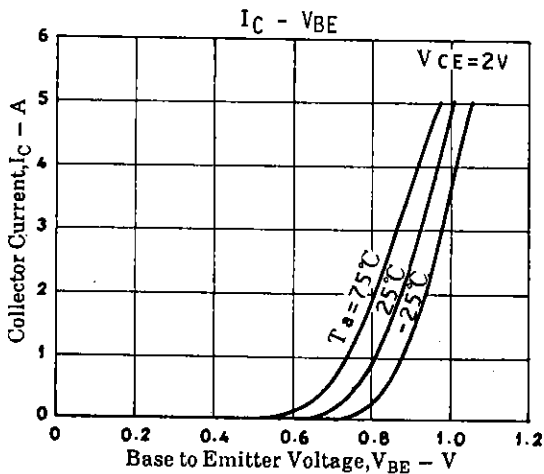
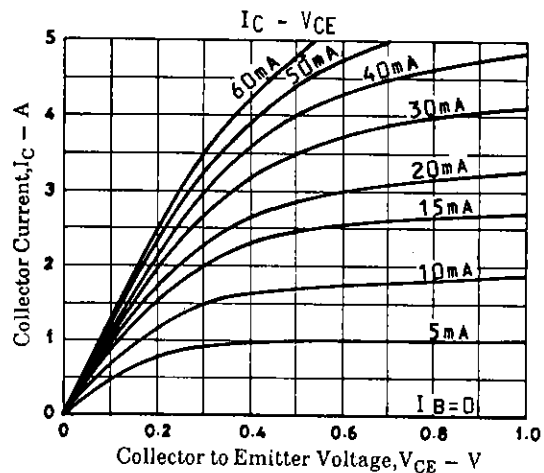
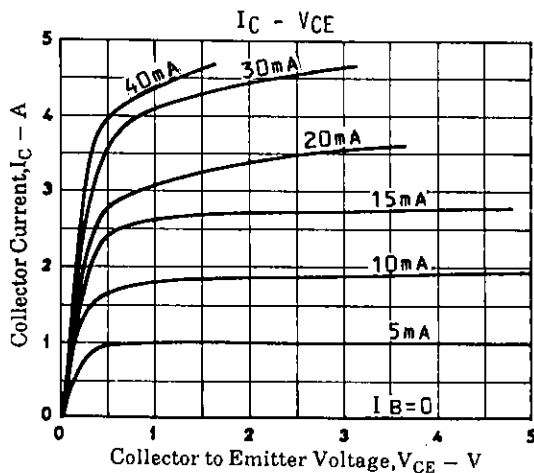
			min	typ	max	unit
Turn-on Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}	"		300		ns
Fall Time	t_f	"		40		ns

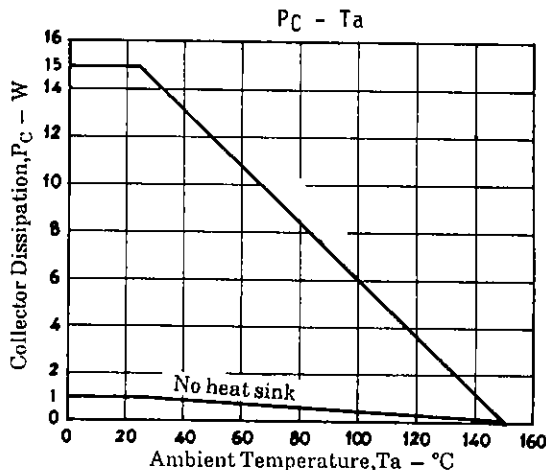
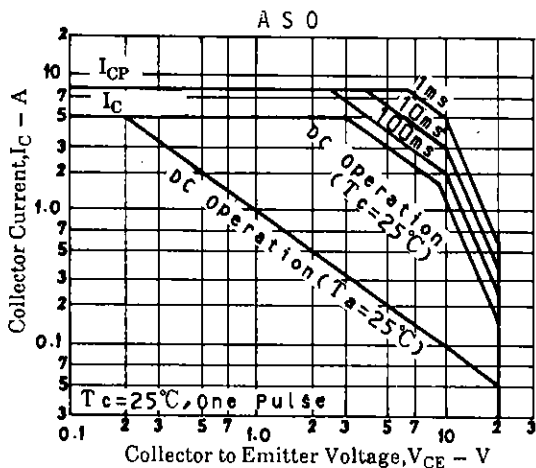
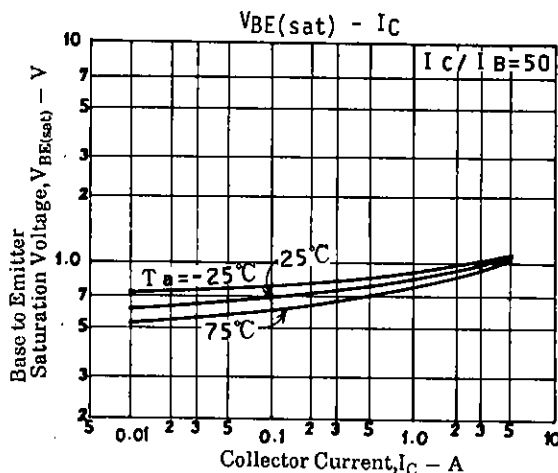
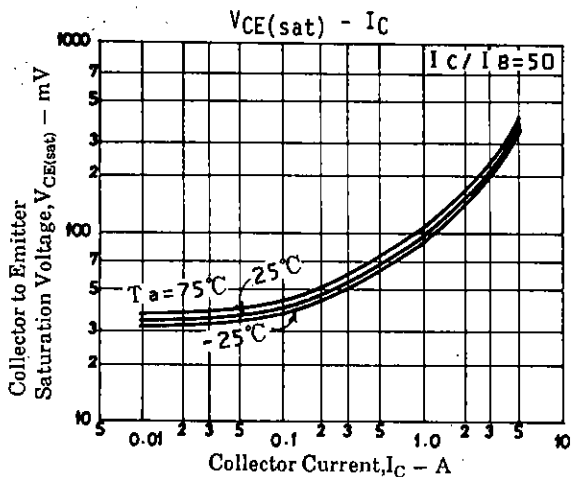
Switching Time Test Circuit



Unit (Capacitance : F)

$I_C = 10\text{mA}$ $I_{B1} = -10\text{mA}$ $I_{B2} = 2\text{mA}$ $V_{CC} = 10\text{V}$





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