2SC4306



High-Current Switching Applications

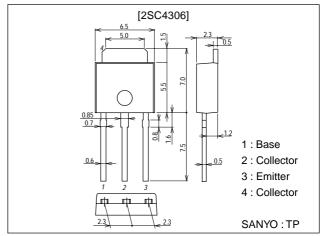
Features

- · Adoption of FBET, MBIT processes.
- · Low saturation voltage.
- · Fast switching speed.
- · Large current capacity.
- · Small and slim package making it easy to make 2SC4306-used set smaller.

Package Dimensions

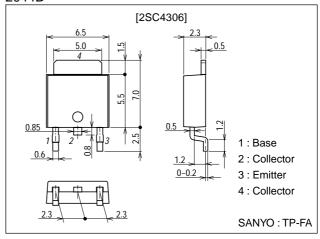
unit:mm

2045B



unit:mm

2044B



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Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		30	V
Collector-to-Emitter Voltage	V _{CEO}		20	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	lc		8	А
Collector Current (Pulse)	lCP		12	А
Base Current	I _B		1.5	А
Collector Dissipation	PC		1	W
		Tc=25°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

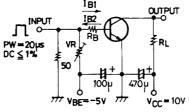
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =20V, 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} =2V, I _C =500mA	100*		400*	
De Current Gain	h _{FE} 2	V _{CE} =2V, I _C =6A	70			
Gain-Bandwidth Product	fT	V _{CE} =2V, I _C =500mA		250		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		60		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =5A, I _B =250mA		220	400	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =5A, I _B =250mA		1	1.3	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =10μA, I _E =0	30			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =1mA, R _{BE} =∞	20			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =10μA, I _C =0	5			V
Turn-ON Time	ton	See specified test circuit.		30	300	ns
Storage Time	t _{stg}	See specified test circuit.		250	1000	ns
Fall Time	t _f	See specified test circuit.		15	150	ns

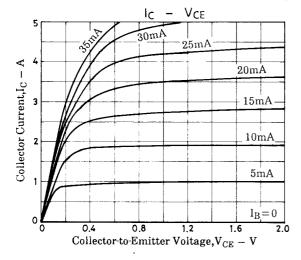
 $[\]ast$: The 2SC4306 is classified by 500mA h_{FE} as follows :

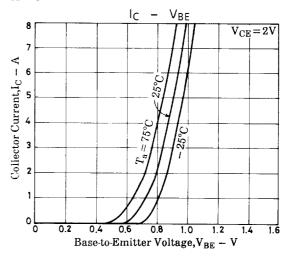
100 R 200 140 S 280 200	Т	400
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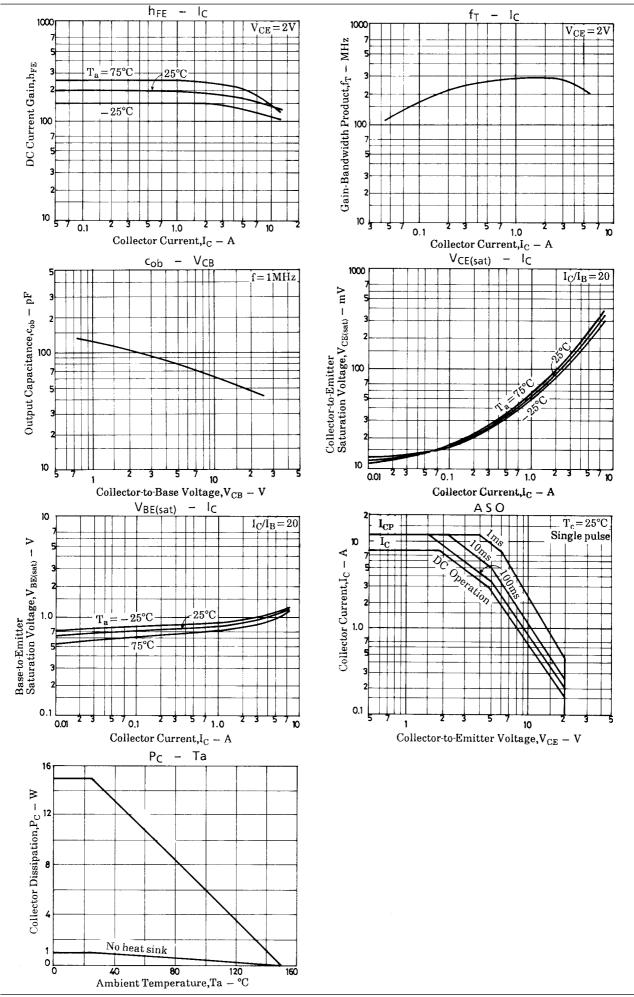
Switching Time Test Circuit



 $20I_{B1} = -20I_{B2} = I_C = 5A$ Unit (resistance: Ω , capacitance: F)







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