NPN Epitaxial Planar Silicon Transistor



2SD1806

High-Current Switching Applications

Applications

· Relay control, motor control, switching.

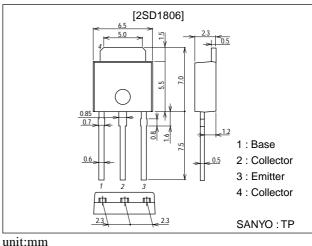
Features

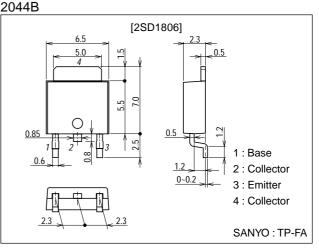
- · Low saturation voltage.
- \cdot On-chip diode between collector and emitter.
- Small and slim package permitting 2SD1806-applied sets to be made more compact.

Package Dimensions

unit:mm

2045B





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Specifications

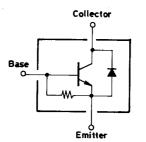
Absolute Maximum Ratings at Ta = 25°C

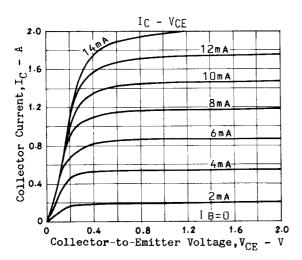
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		40	V
Collector-to-Emitter Voltage	VCEO		30	V
Emitter-to-Base Voltage	VEBO		5	V
Collector Current	ι _C		2	A
Collector Current (Pulse)	I _{CP}		4	A
Collector Dissipation	PC		1	W
		Tc=25°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

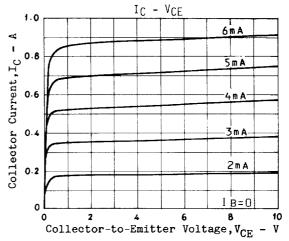
Electrical Characteristics at Ta = 25°C

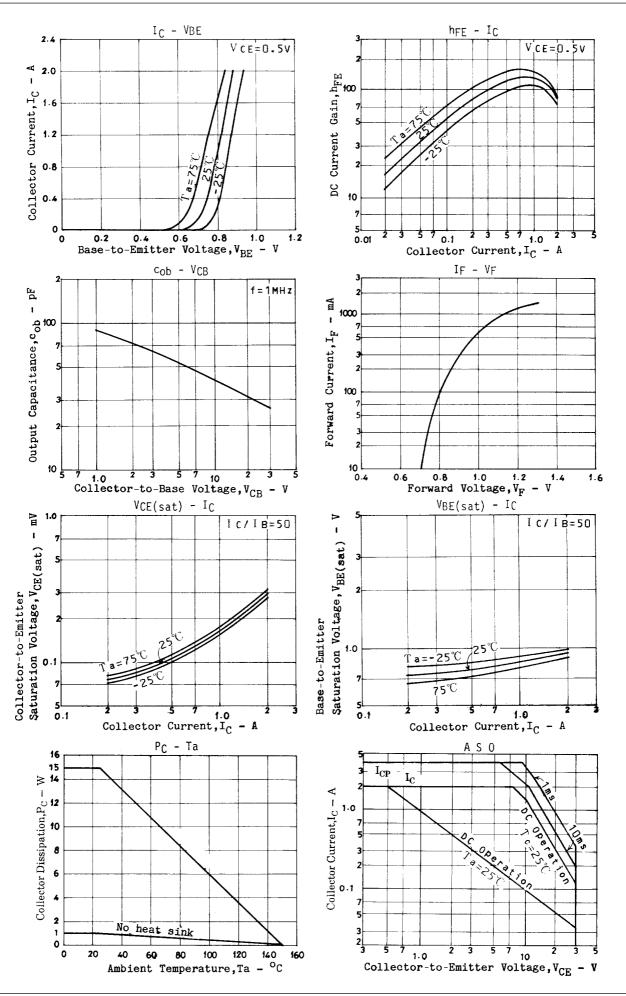
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Collector Cutoff Current	ICBO	V _{CB} =20V, I _E =0			1.0	μΑ
DC Current Gain	h _{FE} 1	V _{CE} =0.5V, I _C =0.5A	50			
	h _{FE} 2	V _{CE} =0.5V, I _C =2A	50			
Gain-Bandwidth Product	fT	V _{CE} =2V, I _C =0.5A		150		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		40		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	I _C =2A, I _B =40mA		0.25	0.5	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =2A, I _B =40mA		0.92	1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =10µA, I _E =0	40			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =10mA, R _{BE} =∞	30			V
Forward Voltage	VF	I _F =0.3A		0.9	1.2	V
Resistance between Base and Emitter	R _{BE}			1.0		kΩ

Electrical Connection









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