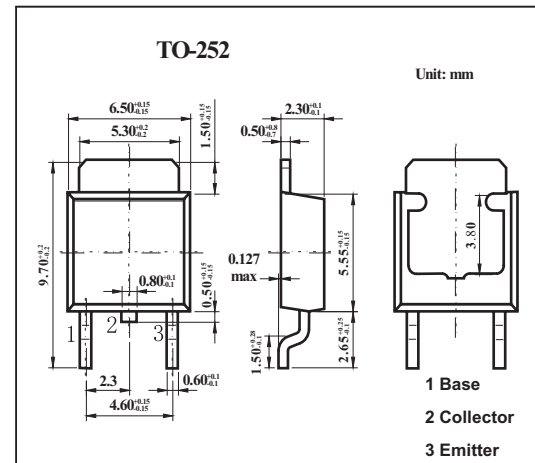


High-Current Switching Applications

2SC4306

■ Features

- Low saturation voltage.
- Fast switching speed.
- Large current capacity.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	30	V
Collector-emitter voltage	V_{CE0}	20	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	8	A
Collector current (pulse)	I_{CP}	12	A
Base current	I_B	1.5	A
Collector dissipation $T_c=25^\circ\text{C}$	P_C	1	W
	P_C	15	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SC4306

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	I _{CBO}	V _{CB} = 20V, I _E =0			1	μA	
Emitter cutoff current	I _{EBO}	V _{EB} = 4V, I _C =0			1	μA	
DC current gain	h _{FE}	V _{CE} = 2V, I _C = 500mA	100		400		
		V _{CE} = 2V, I _C = 6A	70				
Gain bandwidth product	f _T	V _{CE} = 2V, I _C = 500mA		250		MHz	
Output capacitance	C _{ob}	V _{CB} = 10V, f = 1.0MHz		60		pF	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 5A, I _B = 250mA		220	400	mV	
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 5A, I _B = 250mA		1	1.3	V	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	30			V	
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	20			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	5			V	
Turn-on time	t _{on}			30	300	ns	
Storage time	t _{stg}				250	1000	ns
Fall time	t _f				15	150	ns

■ hFE Classification

Rank	R	S	T
hFE	100~200	140~280	200~400