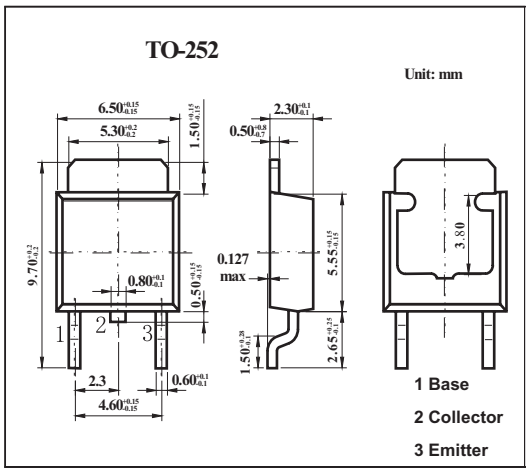
High-Current Switching Applications

2SC4306



Features

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

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	8	A
Collector current (pulse)	I_{CP}	12	A
Base current	I_B	1.5	A
Collector dissipation	P_C	1	W
T_c=25℃	P_C	15	W
Jumction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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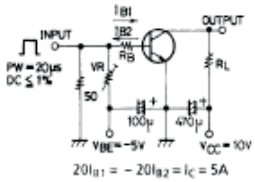
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	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

$20I_{B1} = -20I_{B2} = I_C = 5A$

■ h_{FE} Classification

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