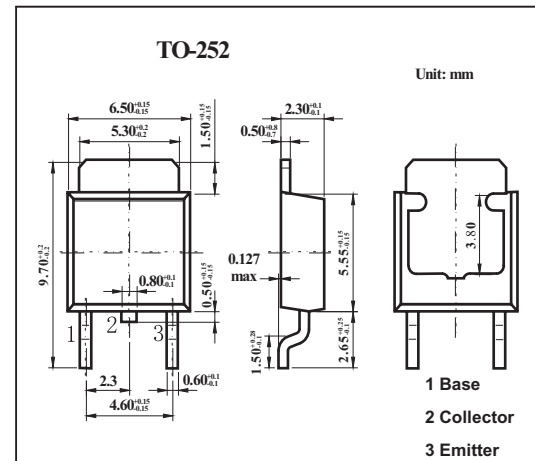


High-Speed Switching Applications

2SC4523

■ Features

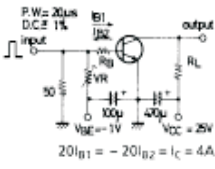
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- Fast switching speed.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	45	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	8	A
Collector current (pulse)	I_{CP}	12	A
Collector dissipation	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V _{CB} = 45V, I _E =0			1	μA	
Emitter cutoff current	I _E BO	V _{EB} = 2V, I _C =0			10	μA	
DC current gain	h _{FE}	V _{CE} = 2V, I _C = 500mA	100		400		
		V _{CE} = 2V, I _C = 8A	40				
Gain bandwidth product	f _T	V _{CE} = 2V, I _C = 500mA		250		MHz	
Output capacitance	C _{ob}	V _{CB} = 10V, f = 1.0MHz		65		pF	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 4A, I _B = 200mA		0.25	0.7	V	
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 4A, I _B = 200mA		0.95	1.3	V	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100μA, I _E = 0	60			V	
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	45			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _C = 0	5			V	
Turn-on time	t _{on}	 <p>Unit (resistance : Ω, capacitance : F)</p>		50	100	ns	
Storage time	t _{stg}				150	270	ns
Fall time	t _f				180	350	ns

■ hFE Classification

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