

High-Voltage Switching Applications

2SC4135

■ Features

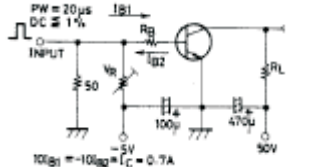
- High breakdown voltage and large current capacity.
- Fast switching speed.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	120	V
Collector-emitter voltage	V_{CE0}	100	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	2	A
Collector current (pulse)	I_{CP}	3	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	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	I _{CBO}	V _{CB} = 100V, I _E =0			100	nA	
Emitter cutoff current	I _{EBO}	V _{EB} = 4V, I _C =0			100	nA	
DC current gain	h _{FE}	V _{CE} = 5V, I _C = 100mA	100		400		
Gain bandwidth product	f _T	V _{CE} = 10V, I _C = 100mA		120		MHz	
Output capacitance	C _{ob}	V _{CB} = 10V, f = 1.0MHz		16		pF	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 1A, I _B = 100mA		0.13	0.4	V	
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 1A, I _B = 100mA		0.85	1.2	V	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	120			V	
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	100			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	6			V	
Turn-on time	t _{on}	 <p>PW = 20μs DC = 1%</p> <p>Unit (resistance : Ω, capacitance : F) (For PNP, the polarity is reversed.)</p>		80		ns	
Storage time	t _{stg}				1000		ns
Fall time	t _f				50		ns

■ hFE Classification

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