Low $V_{CE(sat)}$ Transistor (Strobe flash) (−20V, −10A)

2SA1834

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ = −0.16V at I_C / I_B = −4A / −50mA.
2) High current capacity, typically I_C = −10A for DC operation and −15A for 10ms pulse.
3) Complements the 2SC5001.

●**Packaging specifications and h_{FE}**

Type	2SA1834
Package	CPT3
h_{FE}	RS
Code	TL
Basic ordering unit (pieces)	2500

●**Absolute maximum ratings (Ta=25℃)**

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	−30	V	
Collector-emitter voltage	V_{CEO}	−20	V	
Emitter-base voltage	V_{EBO}	−6	V	
Collector current	I_C	−10	A	
	I_{CP}	−15	A	✻
Base current	I_B	−2	A	
Collector power dissipation	P_C	1	W	
		10	W (Tc=25℃)	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55～+150	℃	

✻ Single pulse Pw=10ms

●**Electrical characteristics (Ta=25℃)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	−30	—	—	V	I_C=−50 μA	
Collector-emitter breakdown voltage	BV_{CEO}	−20	—	—	V	I_C=−1mA	
Emitter-base breakdown voltage	BV_{EBO}	−6	—	—	V	I_E=−50 μA	
Collector cutoff current	I_{CBO}	—	—	−1	μA	V_{CB}=−20V	
Emitter cutoff current	I_{EBO}	—	—	−1	μA	V_{EB}=−5V	
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	−0.16	−0.25	V	I_C/I_B=−4A/−0.05A	✻
Base-emitter saturation voltage	$V_{BE(sat)}$	—	−0.9	−1.2	V	I_C/I_B=−4A/−0.05A	✻
DC current transfer ratio	h_{FE1}	120	—	560	—	V_{CE}=−2V , I_C=−0.5A	✻
	h_{FE2}	82	—	—	—	V_{CE}=−2V , I_C=−4A	✻
Transition frequency	f_T	—	150	—	MHz	V_{CE}=−5V , I_E=1.5A , f=50MHz	
Output capacitance	Cob	—	220	—	pF	V_{CB}=−10V , I_E=0A , f=1MHz	

✻ Measured using pulse current.

(96-106-B217)

Low $V_{CE(sat)}$ Transistor (Strobe flash) (20V, 10A)

2SC5001

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.13V at I_C / I_B =4A / 50mA.
2) High current capacity, typically I_C=10A for DC operation 15A for 10ms pulse.
3) Complements the 2SA1834.

●**Packaging specifications and h_{FE}**

Type	2SC5001
Package	CPT3
h_{FE}	QR
Code	TL
Basic ordering unit (pieces)	2500

●**Absolute maximum ratings (Ta=25℃)**

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	30	V	
Collector-emitter voltage	V_{CEO}	20	V	
Emitter-base voltage	V_{EBO}	6	V	
Collector current	I_C	10	A	
	I_{CP}	15	A	✻
Base current	I_B	2	A	
Collector power dissipation	P_C	1	W	
		10	W (Tc=25℃)	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55～+150	℃	

✻ Single pulse Pw=10ms

●**Electrical characteristics (Ta=25℃)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	20	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	1	μA	V_{CB}=20V
Emitter cutoff current	I_{EBO}	—	—	1	μA	V_{EB}=5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.13	0.25	V	I_C/I_B=4A/0.05A
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	V	I_C/I_B=4A/0.05A
DC current transfer ratio	h_{FE1}	120	—	390	—	V_{CE}/I_C=5V/0.1A
DC current transfer ratio	h_{FE2}	82	—	—	—	V_{CE}=2V , I_C=4A
Transition frequency	f_T	—	150	—	MHz	V_{CE}=5V , I_E=−1.5A , f=50MHz
Output capacitance	Cob	—	220	—	pF	V_{CB}=10V , I_E=0A , f=1MHz

(96-193-D217)