

# Low $V_{CE(sat)}$ Transistor (Strobe flash)

## (-20V, -10A)

2SA1834

### ●Features

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

### ●Packaging specifications and hfe

Type	2SA1834
Package	CPT3
hFE	RS
Code	TL
Basic ordering unit (pieces)	2500

### ●Absolute maximum ratings (Ta=25°C)

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°C)
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{stg}$	-55~+150	°C

\* Single pulse  $P_w=10ms$ 

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-30	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-20	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-6	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	$I_{CBO}$	—	—	-1	$\mu A$	$V_{CB} = -20V$
Emitter cutoff current	$I_{EBO}$	—	—	-1	$\mu A$	$V_{EB} = -5V$
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	hFE1	120	—	560	—	$V_{CE} = -2V, I_C = -0.5A$ *
	hFE2	82	—	—	—	$V_{CE} = -2V, I_C = -4A$ *
Transition frequency	$f_T$	—	150	—	MHz	$V_{CE} = -5V, I_E = 1.5A, f = 50MHz$
Output capacitance	$C_{ob}$	—	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

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

### ●Packaging specifications and hfe

Type	2SC5001
Package	CPT3
hFE	QR
Code	TL
Basic ordering unit (pieces)	2500

### ●Absolute maximum ratings (Ta=25°C)

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°C)
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{stg}$	-55~+150	°C

\* Single pulse  $P_w=10ms$ 

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	30	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	20	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	6	—	—	V	$I_E = 50 \mu A$
Collector cutoff current	$I_{CBO}$	—	—	1	$\mu A$	$V_{CB} = 20V$
Emitter cutoff current	$I_{EBO}$	—	—	1	$\mu A$	$V_{EB} = 5V$
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	hFE1	120	—	390	—	$V_{CE}/I_C = 5V/0.1A$
DC current transfer ratio	hFE2	82	—	—	—	$V_{CE} = 2V, I_C = 4A$
Transition frequency	$f_T$	—	150	—	MHz	$V_{CE} = 5V, I_E = -1.5A, f = 50MHz$
Output capacitance	$C_{ob}$	—	220	—	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$

(96-193-D217)

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