Power Transistor (−15V, −1A)

2SB1590K

●Features

1) Low saturation voltage, $V_{CE(sat)}$ = −0.3 (Max.) at I_C / I_B = −0.4A / −20mA.
2) I_C = −1A
3) Complements the 2SD2444K.

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−15	V
Collector-emitter voltage	V_{CEO}	−15	V
Emitter-base voltage	V_{EBO}	−6	V
Collector current	I_C	−1	A (DC)
Collector power dissipation	P_C	0.2	W
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

●Packaging specifications and h_{FE}

Type	2SB1590K
Package	SMT3
h_{FE}	Q
Marking	BK✻
Code	T146
Basic ordering unit (pieces)	3000

✻ Denotes h_{FE}

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−15	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−15	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−6	—	—	V	I_E=−50 μA
Collector cutoff current	I_{CBO}	—	—	−0.5	μA	V_{CB}=−12V
Emitter cutoff current	I_{EBO}	—	—	−0.5	μA	V_{EB}=−5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−0.3	V	I_C=−0.4A , I_B=−20mA
DC current transfer ratio	h_{FE1}	120	—	270	—	V_{CE}/I_C=−2V/−0.5A
DC current transfer ratio	h_{FE2}	80	—	—	—	V_{CE}=−2V , I_C=−800mA
Transition frequency	f_T	—	200	—	MHz	V_{CE}=−2V , I_E=50mA , f=100MHz
Output capacitance	Cob	—	15	—	pF	V_{CB}=−10V , I_E=0A , f=1MHz

(96-150-B218)

Power Transistor (15V, 1A)

2SD2444K

●Features

1) Low saturation voltage, $V_{CE(sat)}$ = 0.3V (Max.) at I_C / I_B = 0.4A / 20mA.
2) I_C = 1A
3) Complements the 2SB1590K.

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	15	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	1	A (DC)
Collector power dissipation	P_C	0.2	W
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

●Packaging specifications and h_{FE}

Type	2SD2444K
Package	SMT3
h_{FE}	R
Marking	BS✻
Code	T146
Basic ordering unit (pieces)	3000

✻ Denotes h_{FE}

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	15	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	15	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}=12V
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB}=5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	I_C=400mA , I_B=20mA
DC current transfer ratio	h_{FE}	180	—	390	—	V_{CE}/I_C=2V/50mA
Transition frequency	f_T	—	200	—	MHz	V_{CE}=2V , I_E=−50mA , f=100MHz
Output capacitance	Cob	—	15	—	pF	V_{CB}=−10V , I_E=0A , f=1MHz

(96-247-D218)