Medium Power Transistor (−60V, −2A)

2SB1561

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ = −0.15V at I_C / I_B = −1A / −50mA.
2) Collector-emitter voltage = −60 V
3) P_C = 2 W
(on 40 x 40 x 0.7 mm ceramic board).
4) Complements the 2SD2391.

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

Type	2SB1561
Package	MPT3
h_{FE}	Q
Marking	BL∗
Code	T100
Basic ordering unit (pieces)	1000

∗ Denotes h_{FE}

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

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	−60	V	
Collector-emitter voltage	V_{CEO}	−60	V	
Emitter-base voltage	V_{EBO}	−6	V	
Collector current	I_C	−2	A	
	I_{CP}	−5	A	∗1
Collector power dissipation	P_C	0.5	W	
		2		∗2
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55～+150	℃	

∗1 Single pulse, Pw=10ms ∗2 When mounted on a 40 x 40 x 0.7 mm ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−60	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−6	—	—	V	I_E=−50 μA
Collector cutoff current	I_{CBO}	—	—	−0.1	μA	V_{CB}=−50V
Emitter cutoff current	I_{EBO}	—	—	−0.1	μA	V_{EB}=−5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	−0.15	−0.35	V	I_C/I_B=−1A/−50mA ∗
DC current transfer ratio	h_{FE}	120	—	270	—	V_{CE}/I_C=−2V/−0.5A
Transition frequency	fr	—	200	—	MHz	V_{CE}=−2V , I_E=0.5A , f=100MHz ∗
Output capacitance	Cob	—	23	—	pF	V_{CB}=−10V , I_E=0A , f=1MHz

∗ Measured using pulse current

(94S-191-B228)

Medium Power Transistor (60V, 2A)

2SD2391

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.13V at I_C / I_B=1A / 50mA.
2) Collector-emitter voltage = 60 V
3) Pc = 2 W
(on 40×40×0.7 mm ceramic board).
4) Complements the 2SB1561.

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

Type	2SD2391
Package	MPT3
h_{FE}	Q
Marking	DT∗
Code	T100
Basic ordering unit (pieces)	1000

∗ Denotes h_{FE}

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

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	60	V	
Collector-emitter voltage	V_{CEO}	60	V	
Emitter-base voltage	V_{EBO}	6	V	
Collector current	I_C	2	A	
		6	A	∗1
Collector power dissipation	P_C	0.5	W	
		2		∗2
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55～+150	℃	

∗1 Single pulse, Pw=10ms ∗2 When mounted on a 40 x 40 x 0.7 mm ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	0.1	μA	V_{CB}=50V
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	V_{EB}=5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.13	0.35	V	I_C/I_B=1A/50mA ∗
DC current transfer ratio	h_{FE}	120	—	270	—	V_{CE}/I_C=2V/0.5A
Transition frequency	fr	—	210	—	MHz	V_{CE}=2V , I_E=−0.5A , f=100MHz∗
Output capacitance	Cob	—	21	—	pF	V_{CB}=10V , I_E=0A , f=1MHz

∗ Measured using pulse current

(94S-380-D228)