

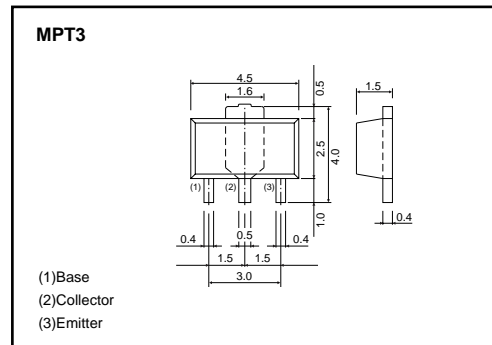
# Medium Power Transistor (60V, 2A)

## 2SD2391

### ●Features

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

### ●External dimensions (Unit : mm)



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CB0}$	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	
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

\*1 Single pulse,  $P_w=10ms$

\*2 When mounted on a  $40 \times 40 \times 0.7mm$  ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CB0}$	60	-	-	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	60	-	-	V	$I_C=1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	6	-	-	V	$I_E=50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	0.1	$\mu A$	$V_{CB}=50V$
Emitter cutoff current	$I_{EBO}$	-	-	0.1	$\mu A$	$V_{EB}=5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.13	0.35	V	$I_C/I_B=1A/50mA$ *
DC current transfer ratio	$h_{FE1}$	120	-	270	-	$V_{CE}/I_C=-2V/-0.5A$
	$h_{FE2}$	45	-	-	-	$V_{CE}/I_C=-2V/-1.5A$
Transition frequency	$f_T$	-	210	-	MHz	$V_{CE}=2V, I_E=-0.5A, f=100MHz$ *
Output capacitance	$C_{ob}$	-	21	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

\* Measured using pulse current

Transistors

●Packaging specifications and hFE

Type	2SD2391
Package	MPT3
hFE	Q
Marking	DT*
Code	T100
Basic ordering unit (pieces)	1000

\*Denotes hFE

● Electrical characteristic curves

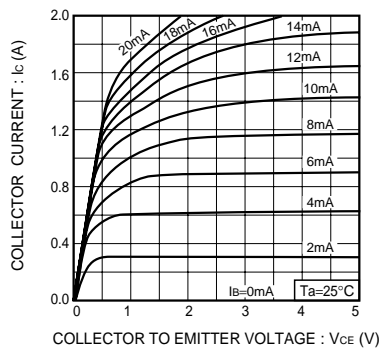


Fig.1 Grounded emitter output characteristics

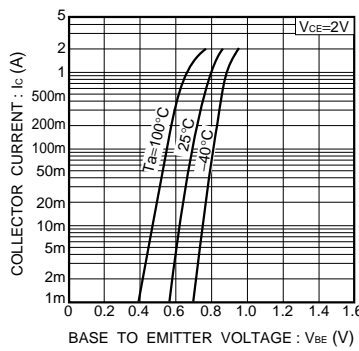


Fig.2 Grounded emitter propagation characteristics

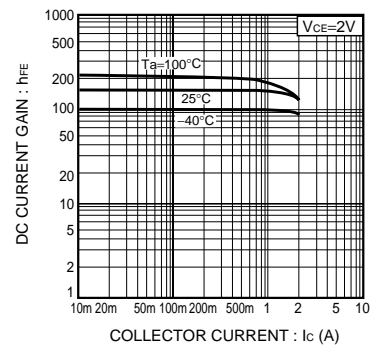


Fig.3 DC current gain vs. collector current ( I )

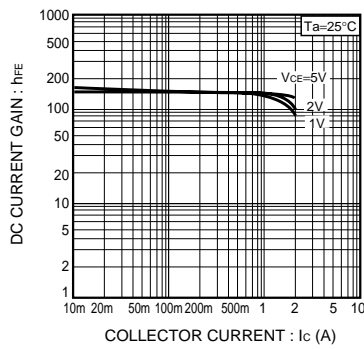


Fig.4 DC current gain vs. collector current ( II )

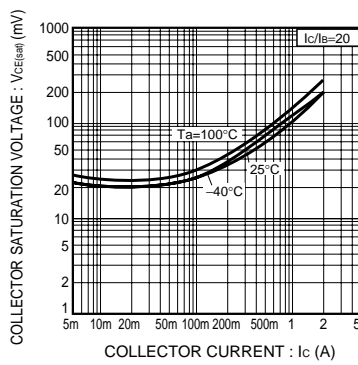


Fig.5 Collector-emitter saturation voltage vs. collector current ( I )

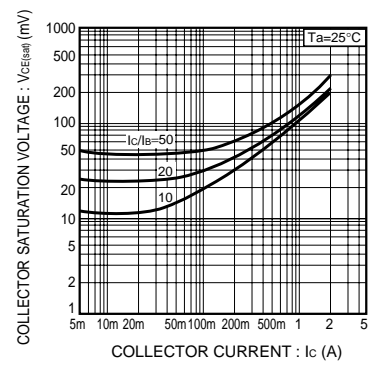


Fig.6 Collector-emitter saturation voltage vs. collector current ( II )

Transistors

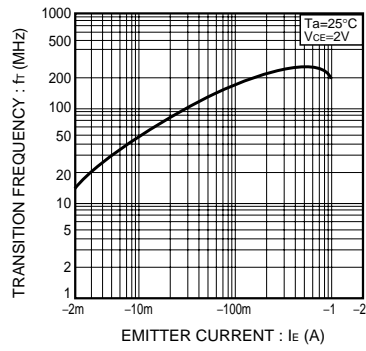


Fig.7 Gain bandwidth product vs. emitter current

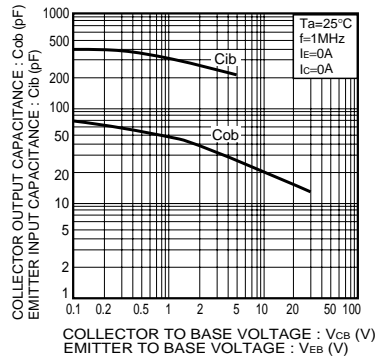


Fig.8 loutput capacitance vs. voltage

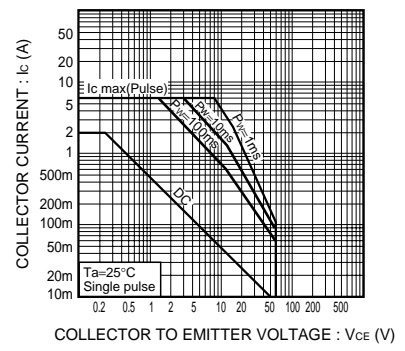


Fig.9 Safe operating area

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