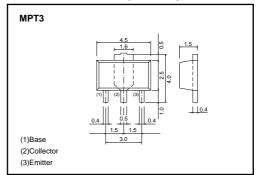
# Medium Power Transistor (60V, 2A) 2SD2391

#### ● Features

- 1) Low saturation voltage, typically VCE (sat) =0.13V at Ic / IB =1A/50mA.
- 2) Collector-emitter voltage =60V
- 3) Pc = 2W (on  $40 \times 40 \times 0.7$ mm ceramic board).
- 4) Complements the 2SB1561.

## ●External dimensions (Unit : mm)



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

Parameter	Symbol	Limits	Unit	
Collector-base voltage	Vсво	60	V	
Collector-emitter voltage	VCEO	60	V	
Emitter-base voltage	VEBO	6	V	
O-lla stan summert	1-	2	A	
Collector current	lc lc	6	A *1	
Collector power dissipation	Pc	0.5	W	
	PC	2	VV *2	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

# ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-base breakdown voltage	ВУсво	60	-	-	V	Ic=50μA	
Collector-emitter breakdown voltage	BVceo	60	-	-	V	Ic=1mA	
Emitter-base breakdown voltage	ВVево	6	-	-	V	Iε=50μA	
Collector cutoff current	Ісво	-	-	0.1	μΑ	Vcb=50V	
Emitter cutoff current	Ієво	-	-	0.1	μΑ	V <sub>EB</sub> =5V	
Collector-emitter saturation voltage	VCE(sat)	_	0.13	0.35	V	Ic/I <sub>B</sub> =1A/50mA	*
DC current transfer ratio	h <sub>FE1</sub>	120	-	270	-	Vce/Ic=-2V/-0.5A	
	hFE2	45	-	-	-	Vce/lc=-2V/-1.5A	
Transition frequency	f⊤	_	210	-	MHz	Vce=2V, Ie=-0.5A, f=100MHz	*
Output capacitance	Cob	_	21	-	pF	Vcb=10V, Ie=0A, f=1MHz	

<sup>\*</sup> Measured using pulse current

<sup>\*1</sup> Single pulse, Pw=10ms \*2 When mounted on a  $40 \times 40 \times 0.7$ mm ceramic board.

## ●Packaging specifications and hFE

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

<sup>\*</sup>Denotes hre

## • Electrical characteristic curves

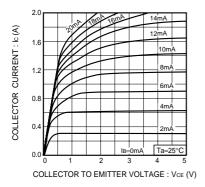


Fig.1 Grounded emitter output characteristics

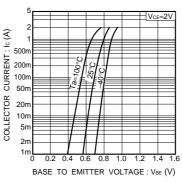


Fig.2 Grounded emitter propagation characteristics

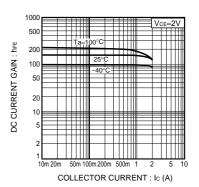


Fig.3 DC current gain vs. collector current ( I )

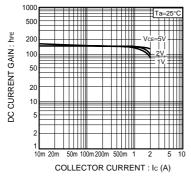


Fig.4 DC current gain vs. collector current ( II )

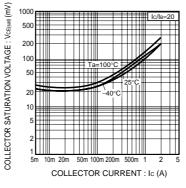


Fig.5 Collector-emitter saturation voltage vs. collector current ( I )

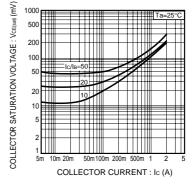


Fig.6 Collector-emitter saturation voltage vs. collector current ( II )

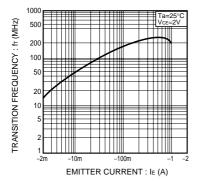


Fig.7 Gain bandwidth product vs. emitter current

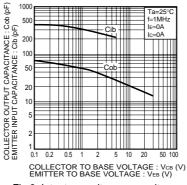


Fig.8 lutput capacitance vs. voltage

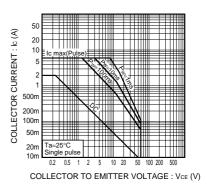


Fig.9 Safe operating area

### **Notes**

- No technical content pages of this document may be reproduced in any form or transmitted by any
  means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the
  product described in this document are for reference only. Upon actual use, therefore, please request
  that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or
  otherwise dispose of the same, no express or implied right or license to practice or commercially
  exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

#### About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.

