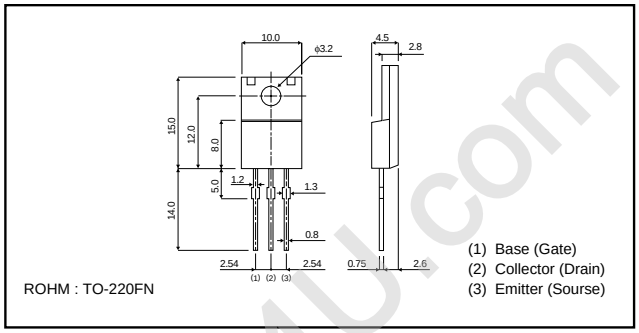
Power Transistor (–80V, –4A)

2SB1568

● **Features**

1) Available in TO-220 FN package
2) Darling connection provides high dc current gain (h_{FE})
3) Damper diode is incorporated
4) Built in resistors between base and emitter
5) Two millimeters lower than TO-220 FP which allows higher density mounting
6) Complementary pair with 2SD2399

●**External dimensions** (Unit : mm)



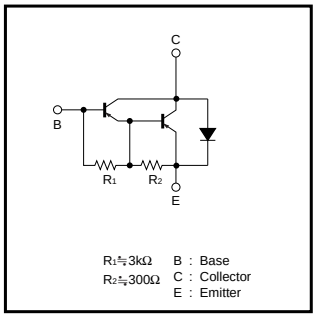
●**Applications**

Power amplifler

●**Absolute maximum rating** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–80	V
Collector-emitter voltage	V_{CEO}	–80	V
Emitter-base voltage	V_{EBO}	–7	V
Collector current	I_C	–4	A(DC)
	I_{CP}	–6	A(Pulse)*
Collector dissipation	P_C	2	W(Ta=25°C)
		30	W(Tc=25°C)
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

●**Equivalent circuit**



●**Electrical characteristics** (unless otherwise noted, Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector–base breakdown voltage	BV_{CBO}	–80	–	–	V	I_C = –50μA
Collector–emitter breakdown voltage	BV_{CEO}	–80	–	–	V	I_C = –1mA
Collector cutoff current	BV_{EBO}	–7	–	–	V	I_E = –5mA
Emitter cutoff current	I_{CBO}	–	–	–100	μA	V_{CB} = –80V
DC current gain	I_{EBO}	–	–	–3	mV	V_{EB} = –5V
Collector–emitter breakdown voltage	h_{FE} *1	1000	5000	–3	–	V_{CE}= –3V, I_C = –2A
Collector–emitter saturation voltage	$V_{CE(sat)}$ *1	–	–1.0	10000	V	Ic/I_B= –2A/ –4mA
Transition frequency	f_T *1 *2	–	12	–1.5	MHz	V_{CE}= –5V, I_E = 0.5A, f=10MHz
Output capacitance	Cob	–	35	–	pF	V_{CB}= –10V, I_E = 0A, f=1MHz

*1 Measured using pulse current.
*2 Transition frequency of the device.

●Packaging specifications

Type		Packaging	Bulk
		Code	
	h_{FE}	Basic ordering unit(pieces)	500
2SB1568	1000 to 10000		○

●Electrical characteristics

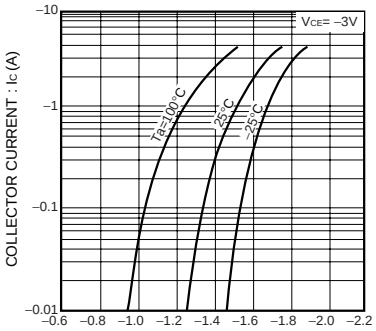


Fig.1 Grounded emitter propagation characteristics

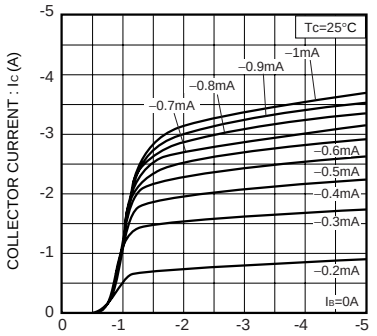


Fig.2 Grounded emitter output characteristics (I)

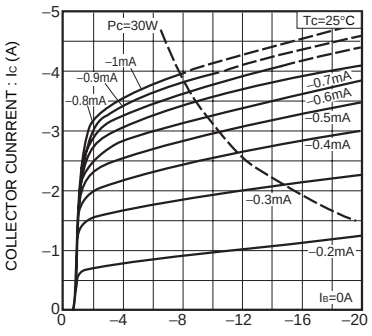


Fig.3 Grounded emitter output characteristics (II)

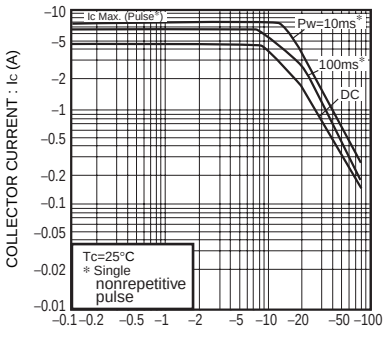


Fig.4 Safe operating area

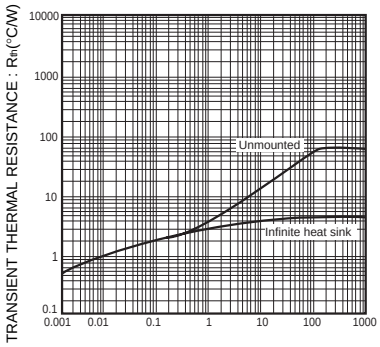


Fig.5 Transient thermal resistance

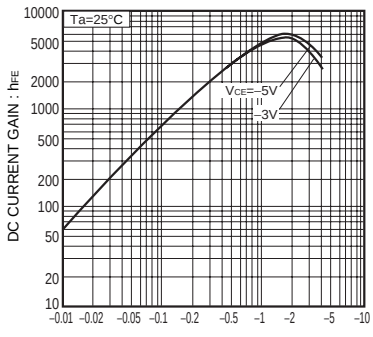


Fig.6 DC current gain vs. collector current (I)

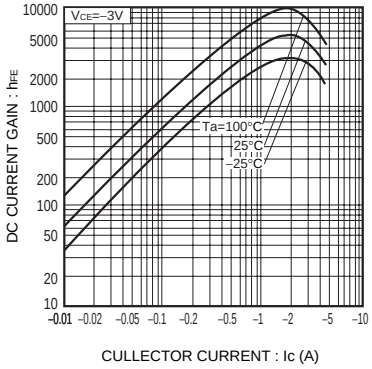


Fig.7 DC current gain vs. collector current (II)

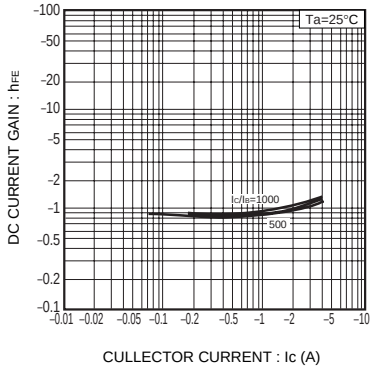


Fig.8 Collector–Emitter saturation voltage vs. collector current (I)

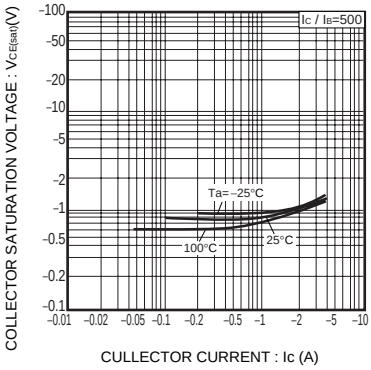


Fig.9 Collector–Emitter saturation voltage vs. collector current (II)

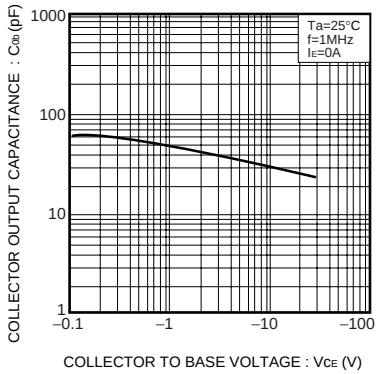


Fig.10 Collector output capacitance vs. collector-base voltage

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.