Low frequency transistor

2SA2018 / 2SA2030 / 2SA2119K

The transistor of 500mA class which went only into 2125 size conventionally was attained in 1608 sizes or 1208 sizes.

●Applications

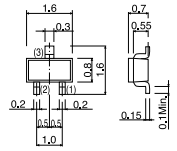
For switching, for muting.

●Features

1) A collector current is large.
2) Collector saturation voltage is low.
   $V_{CE\,(sat)} \leq 250mA$
   At $I_C = -200mA / I_B = -10mA$

●Dimensions (Unit : mm)

2SA2018



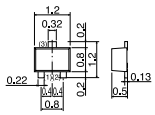
Each lead has same dimensions

ROHM : EMT3
EIAJ : SC-75A
JEDEC : SOT-416

Abbreviated symbol : BW

(1) Emitter
(2) Base
(3) Collector

2SA2030



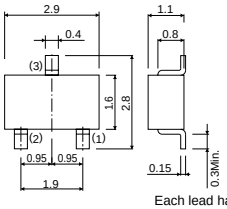
Each lead has same dimensions

ROHM : VMT3

Abbreviated symbol : BW

(1) Base
(2) Emitter
(3) Collector

2SA2119K



Each lead has same dimensions

ROHM : SMT3
EIAJ : SC-59
JEDEC : SOT-346

Abbreviated symbol : BW

(1) Emitter
(2) Base
(3) Collector

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol		Limits	Unit
Collector-base voltage	V_{CBO}		–15	V
Collector-emitter voltage	V_{CEO}		–12	V
Emitter-base voltage	V_{EBO}		–6	V
Collector current	I_C		–500	mA
	I_{CP}		–1	A *
Collector power dissipation	P_C	VMT3 EMT3	150	mW
		SMT3	200	
Junction temperature	Tj		150	°C
Storage temperature	Tstg		–55 to +150	°C

*Single pulse, Pw=1ms

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–15	–	–	V	I_C= –10μA
Collector-emitter breakdown voltage	BV_{CEO}	–12	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E= –10μA
Collector cutoff current	I_{CBO}	–	–	–100	nA	V_{CB}= –15V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}= –6V
DC current transfer ratio	h_{FE}	270	–	680	–	V_{CE}= –2V / I_C= –10mA
Collector-emitter saturation voltage	$V_{CE\,(sat)}$	–	–100	–250	mV	I_C= –200mA / I_B= –10mA
Transition frequency	f_T	–	260	–	MHz	V_{CE}= –2V, I_E=10mA, f_T=100MHz
Output capacitance	Cob	–	6.5	–	pF	V_{CB}= –10V, I_E=0A, f=1MHz

●Packaging specifications and h_{FE}

Type		Package name	Taping		
		Code	T146	TL	T2L
	h_{FE}	Basic ordering unit (pieces)	3000	3000	8000
2SA2119K			○	–	–
2SA2018			–	○	–
2SA2030			–	–	○

●Electrical characteristic curves

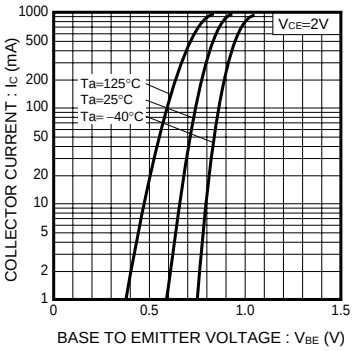


Fig.1 Grounded Emitter Propagation Characteristics

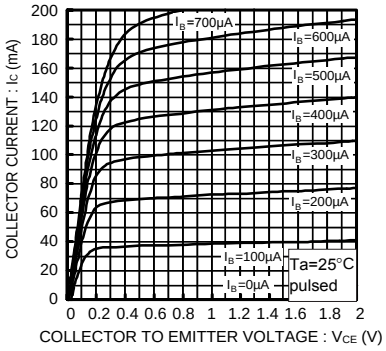


Fig.2 Typical Output Characteristics

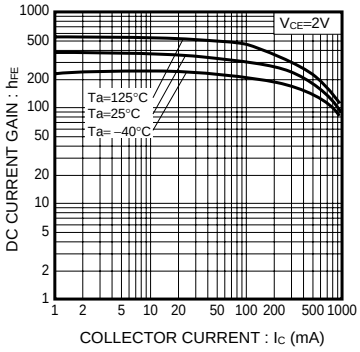


Fig.3 DC Current Gain vs. Collector Current

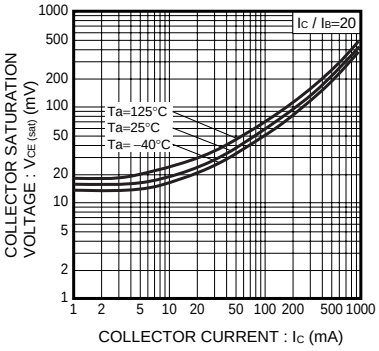


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (I)

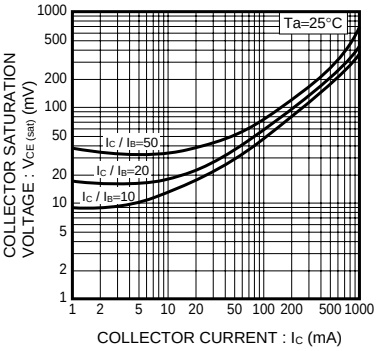


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (II)

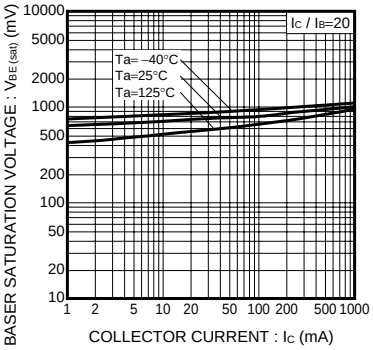


Fig.6 Base-Emitter Saturation Voltage vs.Collecter Current

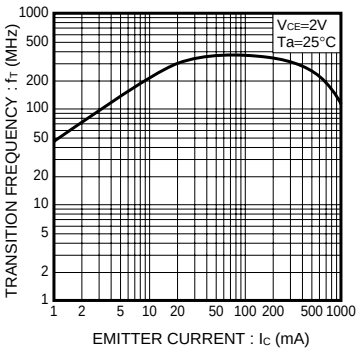


Fig.7 Gain Bandwidth Product vs. Emitter Current

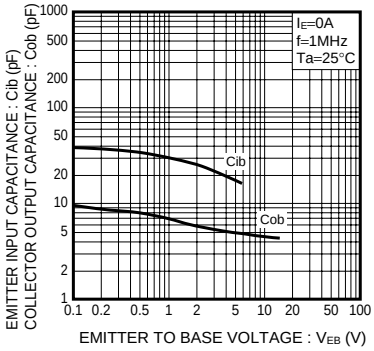


Fig.8 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage

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 which 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.
It is our top priority to supply products with the utmost quality and reliability. However, there is always a chance of failure due to unexpected factors. Therefore, please take into account the derating characteristics and allow for sufficient safety features, such as extra margin, anti-flammability, and fail-safe measures when designing in order to prevent possible accidents that may result in bodily harm or fire caused by component failure. ROHM cannot be held responsible for any damages arising from the use of the products under conditions out of the range of the specifications or due to non-compliance with the NOTES specified in this catalog.

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact your nearest sales office.

ROHM Customer Support System

THE AMERICAS / EUROPE / ASIA / JAPAN

www.rohm.com

Contact us : webmaster@rohm.co.jp

Copyright © 2008 ROHM CO.,LTD.

ROHM CO., LTD. 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
TEL : +81-75-311-2121
FAX : +81-75-315-0172

www.s-manuals.com