NPN Medium Power Transistor (Switching)

UMT2222A / SST2222A / MMST2222A

●Features

1) BV_{CEO} > 40V (I_C=10mA)
2) Complements the UMT2907A / SST2907A / MMST2907A.

●Package, marking, and packaging specifications

Part No.	UMT2222A	SST2222A	MMST2222A
Packaging type	UMT3	SST3	SMT3
Marking	R1P	R1P	R1P
Code	T106	T116	T146
Basic ordering unit (pieces)	3000	3000	3000

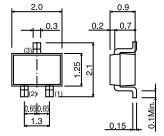
●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	75	V
Collector-emitter voltage		V_{CEO}	40	V
Emitter-base voltage		V_{EBO}	6	V
Collector current		I_C	0.6	A
Collector power dissipation	UMT2222A,SST2222A, MMST2222A	P_C	0.2	W
	SST2222A		0.35	W *
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

* When mounted on a 7 x 5 x 0.6 mm ceramic board

●Dimensions (Unit : mm)

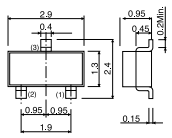
UMT2222A



ROHM : UMT3
EIAJ : SC-70

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

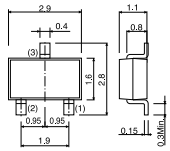
SST2222A



ROHM : SST3

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

MMST2222A



ROHM : SMT3
EIAJ : SC-59

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

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	75	–	–	V	I_C =10μA
Collector-emitter breakdown voltage	BV_{CEO}	40	–	–	V	I_C =10mA
Emitter-base breakdown voltage	BV_{EBO}	6	–	–	V	I_E =10μA
Collector cutoff current	I_{CBO}	–	–	100	nA	V_{CB} = 60V
Emitter cutoff current	I_{EBO}	–	–	100	nA	V_{EB} = 3V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.3	V	I_C/I_B =150mA/15mA
		–	–	1		I_C/I_B =500mA/50mA
Base-emitter saturation voltage	$V_{BE(sat)}$	0.6	–	1.2	V	I_C/I_B =150mA/15mA
		–	–	2		I_C/I_B =500mA/50mA
DC current transfer ratio	h_{FE}	35	–	–	–	V_{CE} =10V , I_C =0.1mA
		50	–	–		V_{CE} =10V , I_C =1mA
		75	–	–		V_{CE} =10V , I_C =10mA
		50	–	–		V_{CE} =1V , I_C =150mA
		100	–	300		V_{CE} =10V , I_C =150mA
		40	–	–		V_{CE} =10V , I_C =500mA
Transition frequency	fT	300	–	–	MHz	V_{CE} =20V , I_C =−20mA, f =100MHz
Output capacitance	Cob	–	–	8	pF	V_{CB} =10V , f =100kHz
Emitter input capacitance	Cib	–	–	25	pF	V_{EB} =0.5V , f =100kHz
Delay time	td	–	–	10	ns	V_{CC} =30V , $V_{BE(OFF)}$ =0.5V , I_C =150mA , I_{B1} =15mA
Rise time	tr	–	–	25	ns	V_{CC} =30V , $V_{BE(OFF)}$ =0.5V , I_C =150mA , I_{B1} =15mA
Storage time	tstg	–	–	225	ns	V_{CC} =30V , I_C =150mA , I_{B1} =−I_{B2} =15mA
Fall time	tf	–	–	60	ns	V_{CC} =30V , I_C =150mA , I_{B1} =−I_{B2} =15mA

●**Electrical characteristic curves**

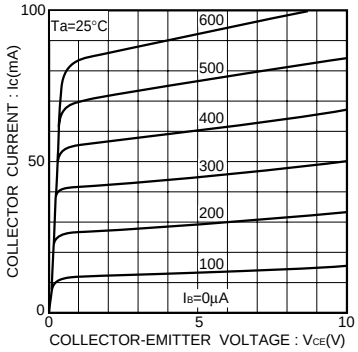


Fig.1 Grounded emitter output characteristics

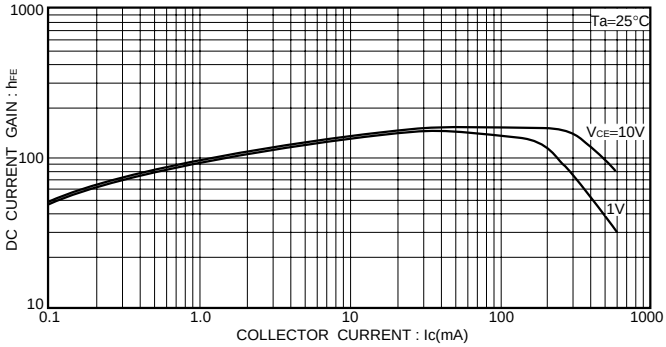


Fig.3 DC current gain vs. collector current(I)

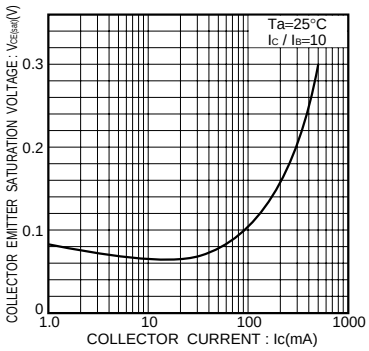


Fig.2 Collector-emitter saturation voltage vs. collector current

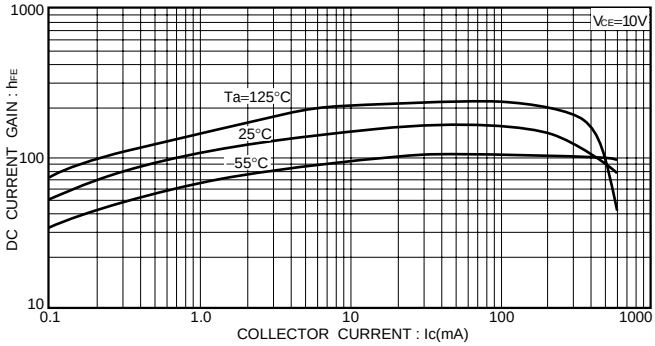


Fig.4 DC current gain vs. collector current(II)

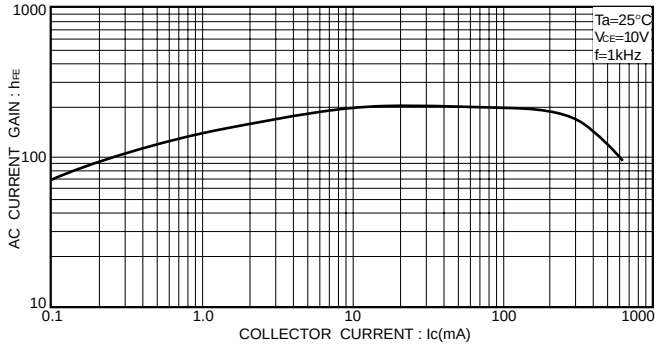


Fig.5 AC current gain vs. collector current

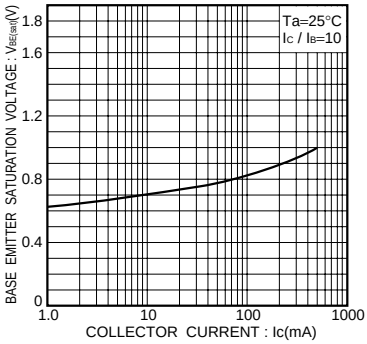


Fig.6 Base-emitter saturation voltage vs. collector current

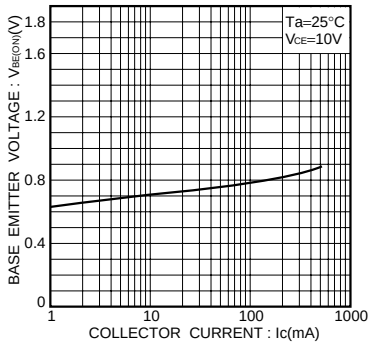


Fig.7 Grounded emitter propagation characteristics

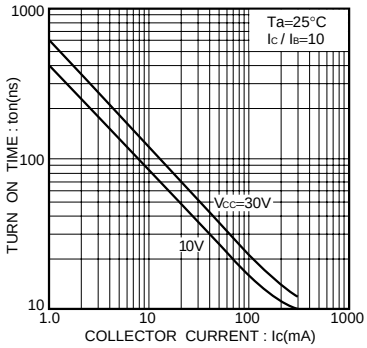


Fig.8 Turn-on time vs. collector current

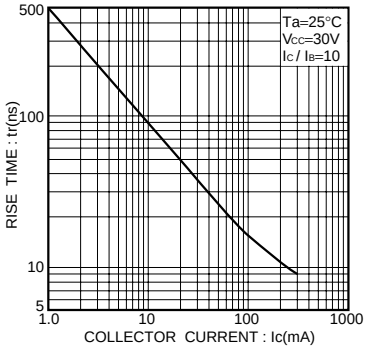


Fig.9 Rise time vs. collector current

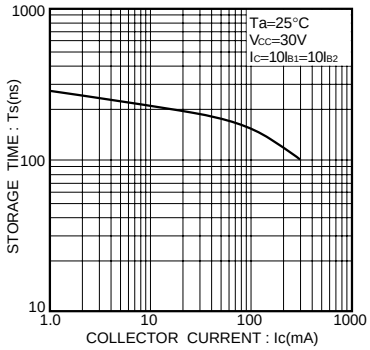


Fig.10 Storage time vs. collector current

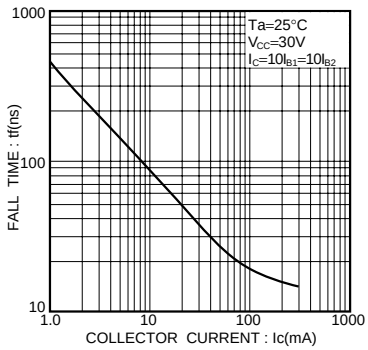


Fig.11 Fall time vs. collector current

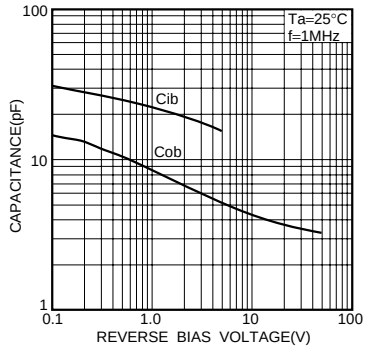


Fig.12 Input / output capacitance vs. voltage

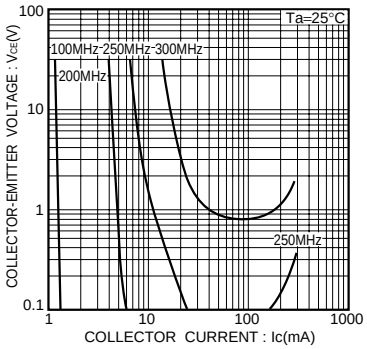


Fig.13 Gain bandwidth product

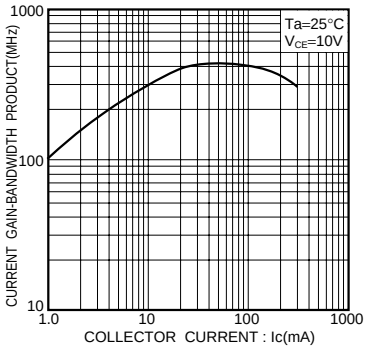


Fig.14 Gain bandwidth product vs. collector current

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 / EUPOPE / ASIA / JAPAN**

www.rohm.com **Contact us** : webmaster@ rohm.co.jp

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

Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург, Промышленная ул, дом № 19, литера Н, помещение 100-Н Офис 331