

PNP -1.0A -50V Middle Power Transistor

				●Outline			
Parameter	Va	lue		MPT3			
V _{CEO}	-5	0V		Base			
Ι _C	-1	.0A		Collecto			
				Err	nitter		
●Features					8513P		
1) Suitable for Middle	Power Driv	ver			-62) Г-89>		
2) Complementary N			D				
3) Low V _{CE(sat)}							
V _{CE(sat)} = -0.4V(Ma							
$(I_{\rm C}/I_{\rm B}$ = -500mA/ -2	25mA)						
4) Lead Free/RoHS (Compliant.						
						5	
Inner circuit							
Collector १				 Applicati 	ons		
					r, LED drive	۶r	
	Base			Power supr		, 1	
ļ							
Emitter				01			
Packaging specifie	cations						
		Package	Taping	Reel size	Tape width	Basic	
Part No.	Package	size (mm)	code	(mm)	(mm)	ordering unit (pcs)	Marking
2SAR513P	MPT3	4540	T100	180	12	1,000	MC
23AR313P		4040	1100	160	12	1,000	WIC
Absolute maximur				Queebal			Linit
Collector-base voltage			Symbol V _{CBO}		alues –50	Unit V	
Collector-emitter voltage			V _{CEO}	-50			
Emitter-base voltage			V _{EBO}	-50		V	
		DC		I _C	-	-1.0	A
Collector current		Pulsed		I _{CP} ^{*1}		-2.0	A
Power dissipation			P_D^{*2}	0.5		W	
			P _D ^{*3}	2.0		W	
Junction temperature			Τ _j	150		°C	
Range of storage ten	nperature			T _{stg}	-55	to +150	°C
*1 Pw=10ms , sin	gle pulse						

4

*2 Each terminal mounted on a reference land

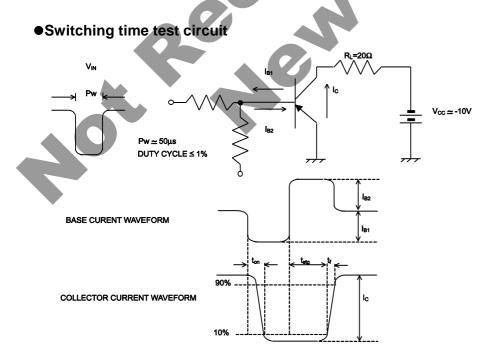
*3 Mounted on a ceramic board (40×40×0.7mm)

•Electrical characteristics(Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Collector-emitter breakdown voltage	BV _{CEO}	I _C = -1mA	-50	-	-	V
Collector-base breakdown voltage	BV _{CBO}	I _C = -100μA	-50	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	I _E = -100μA	-6	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} = -50V	-	-	-1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = -4V	-	-	-1	μA
Collector-emitter saturation voltage	V _{CE(sat)} ^{*1}	I _C = –500mA, I _B = –25mA		-0.20	-0.40	V
DC current gain	h _{FE}	$V_{CE} = -2V, I_C = -50mA$	180	-	450	-
Transition frequency	f _⊤	V _{CE} = -10V, I _E = -200mA f=100MH _Z	-	400	-	MHz
Output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0A f = 1MHz	-	12	-	pF
Turn-on time	t _{on} *2	I _C = -0.5A		40	-	ns
Storage time	t _{stg} *2	I _{B1} = -50mA I _{B2} =50mA	-	250	-	ns
Fall time	t _f *2	V _{CC} ≃ -10V	-	35	-	ns
*4 D I I						

*1 Pulsed

*2 See switching time test circuit



•Electrical characteristic curves(Ta = 25°C)

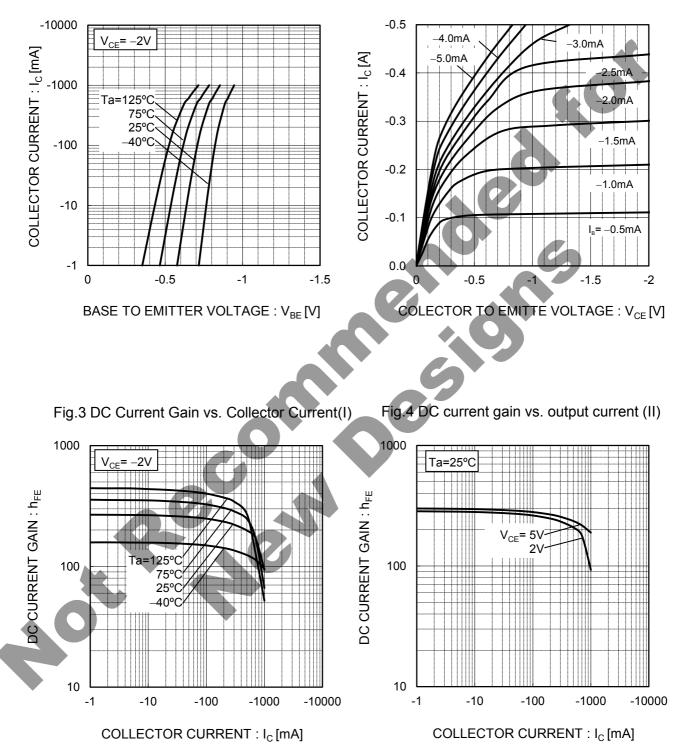
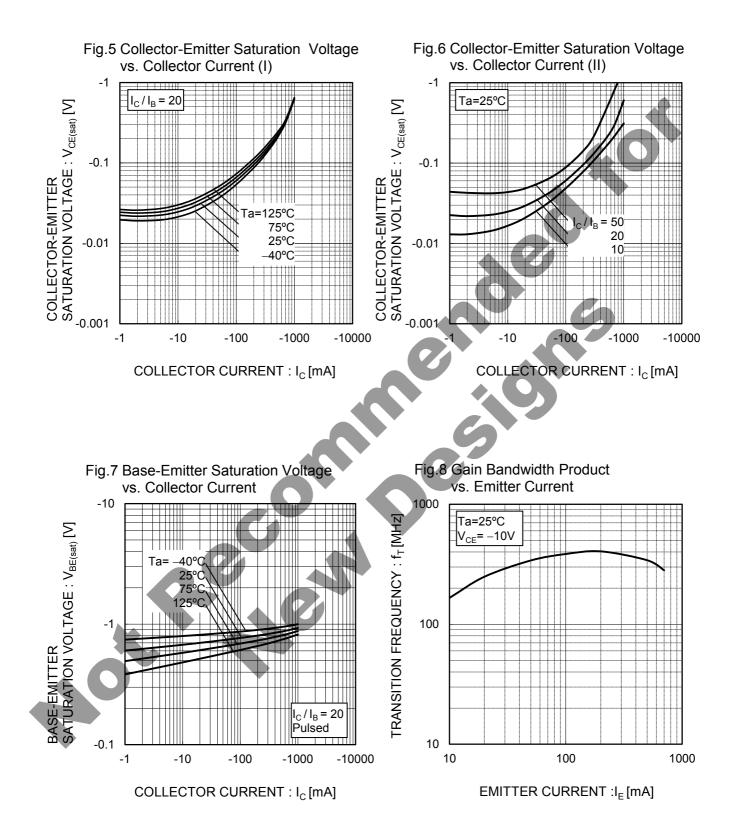
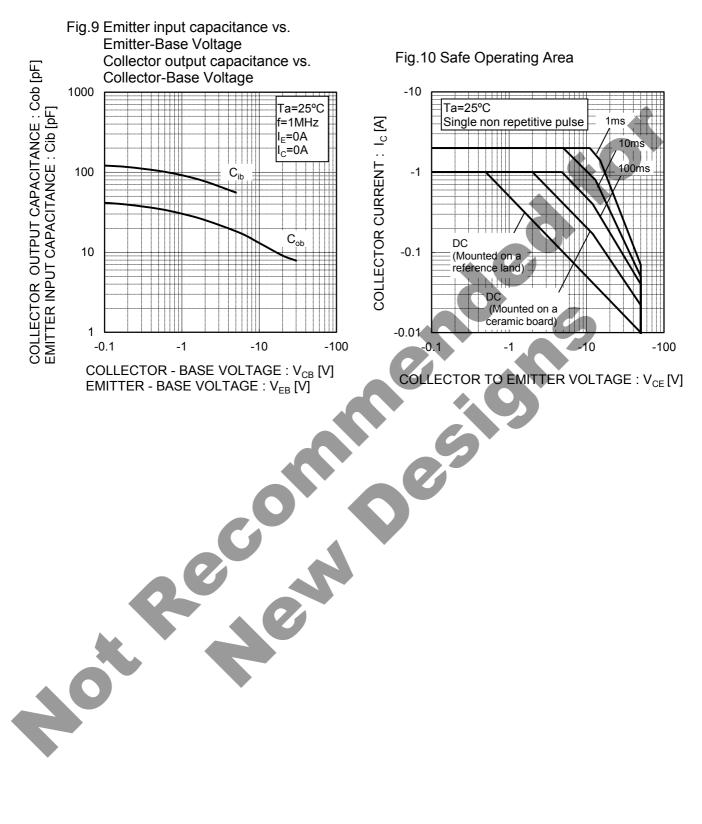


Fig.1 Ground Emitter Propagation Characteristics

Fig.2 Typical Output Characteristics

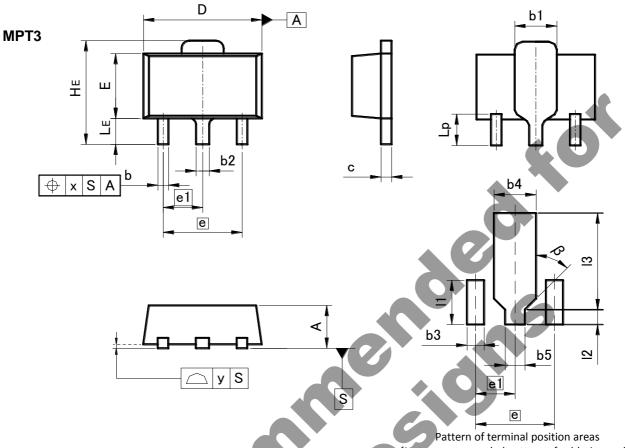
•Electrical characteristic curves(Ta = 25°C)





•Electrical characteristic curves(Ta = 25°C)

•Dimensions (Unit : mm)



[Not a recommended pattern of soldering pads]

DIM	MILIM	TERS	INC	HES
DIM	MIN	MAX	MIN	MAX
Α	1.40	1.50	0.055	0.059
b	0.30	0.50	0.012	0.020
b1	1.50	1.70	0.059	0.067
b2	0.40	0.60	0.016	0.024
C	0.35	0.50	0.014	0.020
D	4.40	4.70	0.173	0.185
E	2.40	2.70	0.094	0.106
е	3.0	00	0.1	18
e1	1.	50	0.0	59
HE	3.70	4.30	0.146	0.169
LE	0.80	1.20	0.031	0.047
Lp	1.01	1.41	0.040	0.056
х	_	0.15	-	0.006
У	_	0.10	-	0.004
DIM	MILIM	ETERS	INC	HES
	MIN	MAX	MIN	MAX
h2		0.05		0.000

DIM	MILIM	ETERS	INCHES		
	MIN	MAX	MIN	MAX	
b3	-	0.65	-	0.026	
b4	-	1.70	-	0.067	
b5	-	0.75	-	0.030	
1	-	1.71	-	0.067	
12	-	0.58	-	0.023	
13	-	3.72	-	0.146	
β	45	0	45	0	

Dimension in mm / inches

	Notes
1)	The information contained herein is subject to change without notice.
2)	Before you use our Products, please contact our sales representative and verify the latest specifications :
3)	Although ROHM is continuously working to improve product reliability and quality, semicon ductors can break down and malfunction due to various factors. Therefore, in order to prevent personal injury or fire arising from failure, please take safet measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.
4)	Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The periphera conditions must be taken into account when designing circuits for mass production.
5)	The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly any license to use or exercise intellectual property or other rights held by ROHM or any othe parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.
6)	The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communi cation, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.
7)	The Products specified in this document are not designed to be radiation tolerant.
8)	For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
9)	Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.
10)	ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.
11)	ROHM has used reasonable care to ensur the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.
12)	Please use the Products in accordance with any applicable environmental laws and regulations such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.
13)	When providing our Products and technologies contained in this document to other countries you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.
14)	This document, in part or in whole, may not be reprinted or reproduced without prior consent o ROHM.



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

ROHM Customer Support System

http://www.rohm.com/contact/