NPN Medium Power Transistor (Switching)

SST4401 / MMST4401

Features

- 1) BVcEo>40V (Ic=1mA)
- 2) Complements the SST4403 / MMST4403.

Package, marking, and packaging specifications

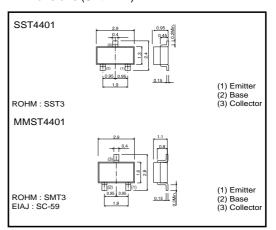
Part No.	SST4401	MMST4401
Packaging type	SST3	SMT3
Marking	R2X	R2X
Code	T116	T146
Basic ordering unit (pieces)	3000	3000

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	60	V
Collector-emitter voltage	VCEO	40	V
Emitter-base voltage	Vево	6	V
Collector current	Ic	0.6	Α
Collector power dissipation	Pc	0.2	w
	FC	0.35	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

* Mounted on a 7×5×0.6mm CERAMIC SUBSTRATE

●Dimensions (Unit: mm)



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	60	_	-	V	Ic=100μA
Collector-emitter breakdown voltage	BVceo	40	-	-	V	Ic=1mA
Emitter-base breakdown voltage	ВVево	6	-	-	V	Iε=100μA
Collector cutoff current	Ісво	-	-	0.1	μΑ	Vcb=35V
Emitter cutoff current	Ієво	-	-	0.1	μΑ	V _{EB} =5V
Collector-emitter saturation voltage	VCE(sat)	-	-	0.4	V	Ic/I _B =150mA/15mA
		-	-	0.75		Ic/Iв=500mA/50mA
Base-emitter saturation voltage	VBE(sat)	-	-	0.95	V	Ic/I _B =150mA/15mA
		-	-	1.2		Ic/Iв=500mA/50mA
DC current transfer ratio	hre	20	-	-	-	VcE=1V, Ic=0.1mA
		40	-	-		VcE=1V, Ic=1mA
		80	-	-		VcE=1V, Ic=10mA
		100	-	300		VcE=1V, Ic=150mA
		40	-	-		VcE=2V, Ic=500mA
Transition frequency	f⊤	250	-	-	MHz	VcE=10V, IE=-20mA, f=100MHz
Collector output capacitance	Cob	-	-	6.5	pF	VcB=10V, f=100kHz
Emitter input capacitance	Cib	-	-	30	pF	V _{EB} =0.5V, f=100kHz
Delay time	td	-	-	15	ns	Vcc=30V, Veb(off)=2V, Ic=150mA, Ib1=15mA
Rise time	tr	-	-	20	ns	Vcc=30V, Veb(off)=2V, Ic=150mA, Ib1=15mA
Storage time	tstg	-	-	225	ns	Vcc=30V, Ic=150mA, I _{B1} =-I _{B2} =15mA
Fall time	tf	-	-	30	ns	Vcc=30V, lc=150mA, lb1=-lb2=15mA

•Electrical characteristic curves

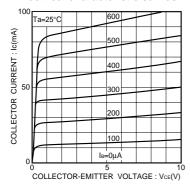


Fig.1 Grounded emitter output characteristics

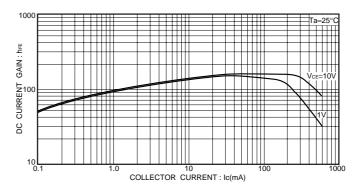


Fig.3 DC current gain vs. collector current(I)

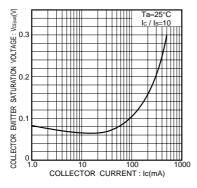


Fig.2 Collector-emitter saturation voltage vs. collector current

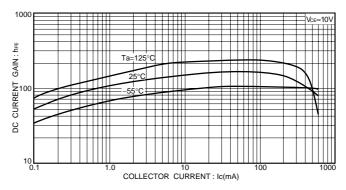


Fig.4 DC current gain vs. collector current(II)

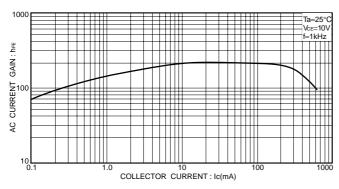


Fig.5 AC current gain vs. collector current

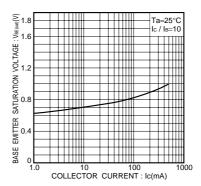


Fig.6 Base-emitter saturation voltage vs. collector current

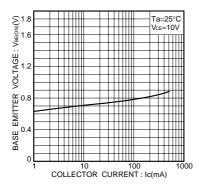


Fig.7 Grounded emitter propagation characteristics

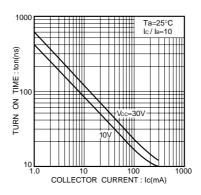


Fig.8 Turn-on time vs. collector current

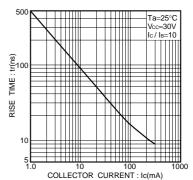


Fig.9 Rise time vs. collector current

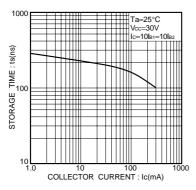


Fig.10 Storage time vs. collector current

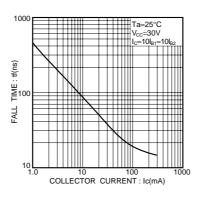


Fig.11 Fall time vs. collector current

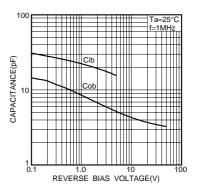


Fig.12 Input / output capacitance vs. voltage

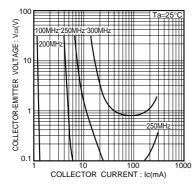


Fig.13 Gain bandwidth product

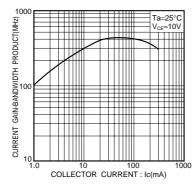


Fig.14 Gain bandwidth product vs. collector current

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Appendix1-Rev2.0

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