PNP Medium Power Transistor (Switching)

SST4403 / MMST4403

●Features

1) BV_{CEO} = –40V (Min.) ; at I_C= –1mA
2) Complements the SST4401 / MMST4401

●Package, marking, and packaging specifications

Part No.	SST4403	MMST4403
Packaging type	SST3	SMT3
Marking	R2T	R2T
Code	T116	T146
Basic ordering unit (pieces)	3000	3000

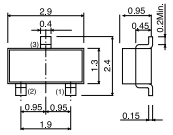
●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–40	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	P_C	0.2	W
		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)

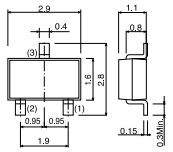
SST4403
SOT-23



ROHM : SST3

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

MMST4403
SOT-346



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}	–40	–	–	V	I_C=–100μA
Collector-emitter breakdown voltage	BV_{CEO}	–40	–	–	V	I_C=–1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E=–100μA
Collector cutoff current	I_{CBO}	–	–	–0.1	μA	V_{CB}=–35V
Emitter cutoff current	I_{EBO}	–	–	–0.1	μA	V_{EB}=–5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	–0.4	V	I_C/I_B=–150mA/–15mA
		–	–	–0.75		I_C/I_B=–500mA/–50mA
Base-emitter saturation voltage	$V_{BE(sat)}$	–0.75	–	–0.95	V	I_C/I_B=–150mA/–15mA
		–	–	–1.3		I_C/I_B=–500mA/–50mA
DC current transfer ratio	h_{FE}	30	–	–	–	V_{CE}=–1V, I_C=–0.1mA
		60	–	–		V_{CE}=–1V, I_C=–1mA
		100	–	–		V_{CE}=–1V, I_C=–10mA
		100	–	300		V_{CE}=–1V, I_C=–150mA
		20	–	–		V_{CE}=–2V, I_C=–500mA
Transition frequency	f_T	200	–	–	MHz	V_{CE}=–10V, I_E=20mA, f=100MHz
Collector output capacitance	Cob	–	–	8.5	pF	V_{CB}=–10V, f=100kHz
Emitter input capacitance	Cib	–	–	30	pF	V_{EB}=–0.5V, f=100kHz
Delay time	td	–	–	15	ns	V_{CC}=–30V, $V_{EB(OFF)}$=–2V, I_C=–150mA, I_{B1}=–15mA
Rise time	tr	–	–	20	ns	V_{CC}=–30V, $V_{EB(OFF)}$=–2V, 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	–	–	30	ns	V_{CC}=–30V, I_C=–150mA, I_{B1}=–I_{B2}=–15mA

●Electrical characteristic curves

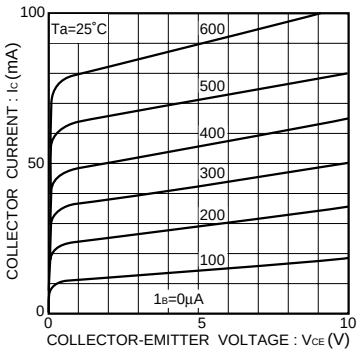


Fig.1 Grounded emitter output characteristics

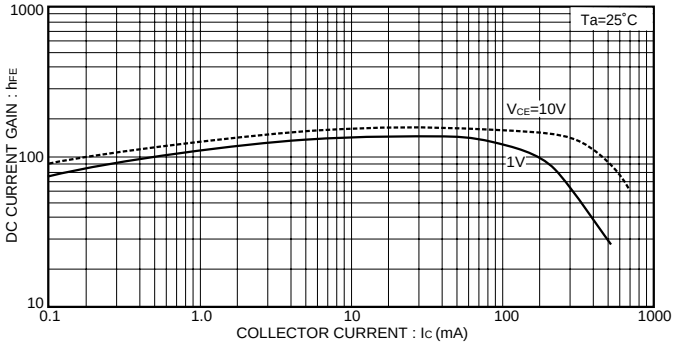


Fig.3 DC current gain vs. collector current (Ⅰ)

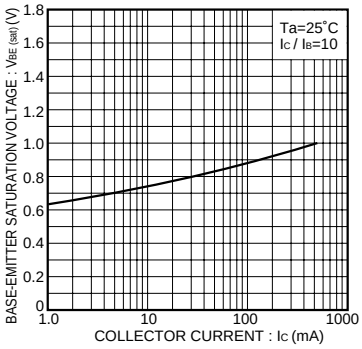


Fig.2 Base-emitter saturation voltage vs. collector current

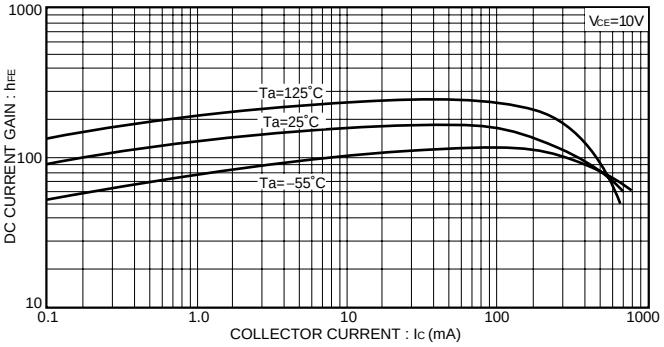


Fig.4 DC current gain vs. collector current (Ⅱ)

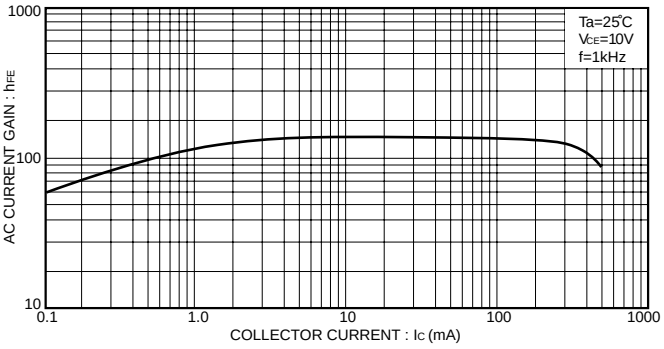


Fig.5 AC current gain vs. collector current

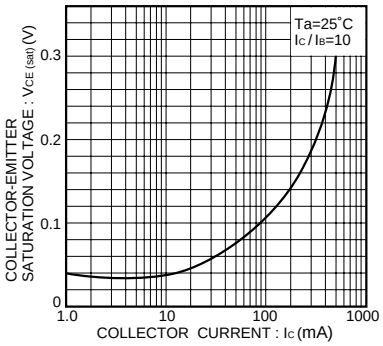


Fig.6 Collector-emitter saturation voltage vs. collector current

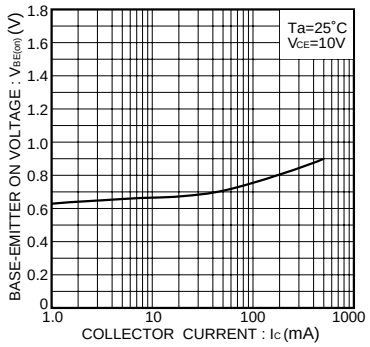


Fig.7 Grounded emitter propagation characteristics

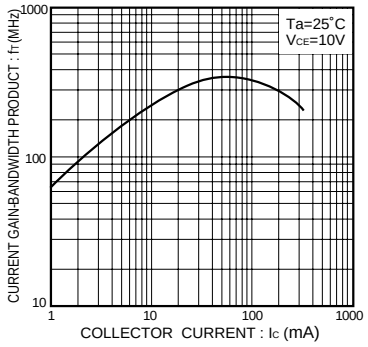


Fig.8 Gain bandwidth product vs. collector current

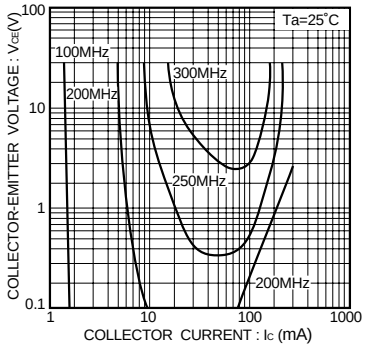


Fig.9 Gain bandwidth product

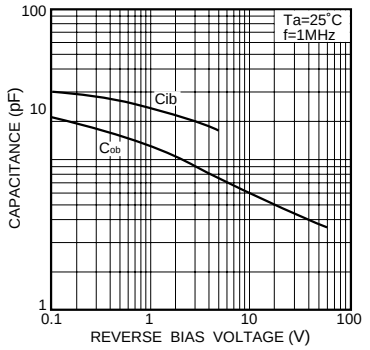


Fig.10 Input /output capacitance vs. voltage

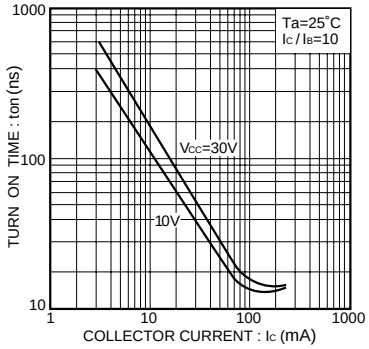


Fig.11 Turn-on time vs.collector current

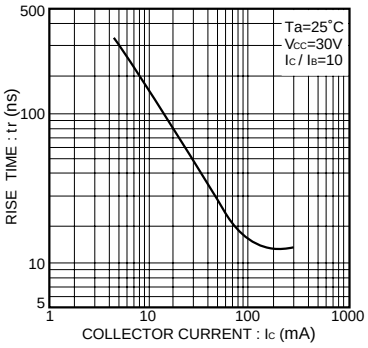


Fig.12 Rise time vs. collector current

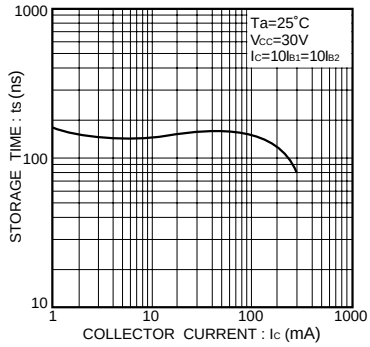


Fig.13 Storage time vs. collector current

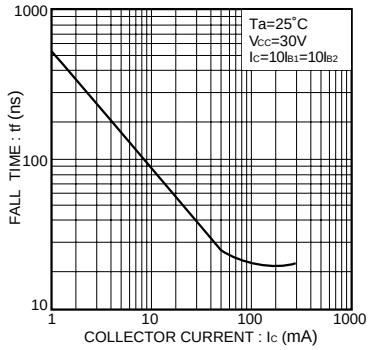


Fig.14 Fall time vs. collector current

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