

UMT3906 / SST3906 / MMST3906

- 1) $BV_{CEO} > -40V$ ($I_C = -1mA$)
- 2) Complements the T3904/SST3904/MMST3909.
- 3) Low capacitance.

Type	UMT3906	SST3906	MMST3906
Packaging type	UMT3	SST3	SMT3
Marking	R2A	R2A	R2A
Code	T106	T116	T146
Basic ordering unit (pieces)	3000	3000	3000

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CB0}	-40	V
Collector-emitter voltage		V_{CE0}	-40	V
Emitter-base voltage		V_{EB0}	-5	V
Collector current		I_0	-0.2	A
Collector Power dissipation	UMT3906 SST3906,MMST3906	P_d	6.2	W
	SST3906,MMST3906		0.35	W *
Junction temperature		T_j	150	°C
Storage temperature		T_{stq}	-55 to +150	°C

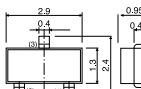
UMT3906



ROHM : UMT3
EIAJ : SC-70

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

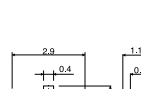
SST3906



ROHM : SST3

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

MMST3906



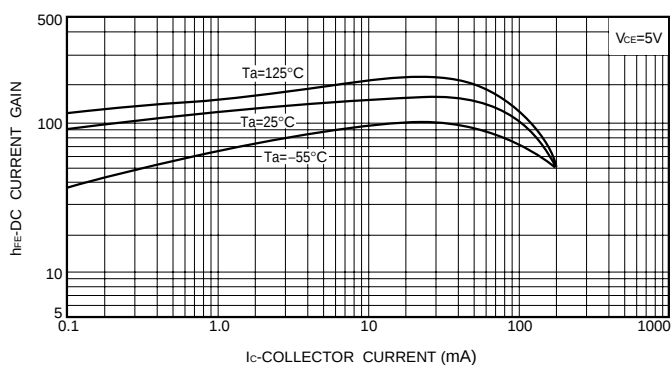
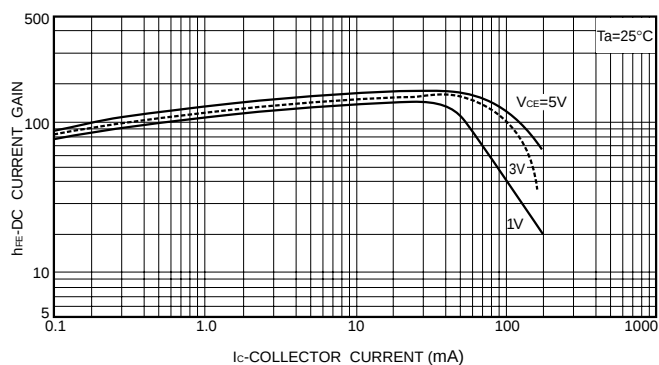
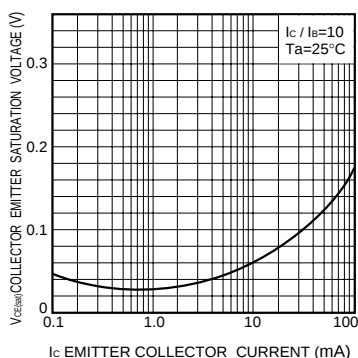
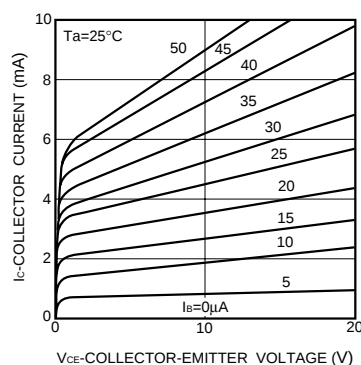
ROHM : SMT3
EIAJ : SC-59

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-40	-	-	V	$I_C = -10\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-40	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -10\mu A$
Collector cutoff current	I_{CES}	-	-	-50	nA	$V_{CB} = -30V$
Emitter cutoff current	I_{EBO}	-	-	-50	nA	$V_{EB} = -3V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-0.25	V	$I_C/I_B = -10mA/-1mA$
		-	-	-0.4		$I_C/I_B = -50mA/-5mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-0.65	-	-0.85	V	$I_C/I_B = -10mA/-1mA$
		-	-	-0.95		$I_C/I_B = -50mA/-5mA$
DC current transfer ratio	h_{FE}	60	-	-	-	$V_{CE} = -1V, I_C = -0.1mA$
		80	-	-		$V_{CE} = -1V, I_C = -1mA$
		100	-	300		$V_{CE} = -1V, I_C = -10mA$
		60	-	-		$V_{CE} = -1V, I_C = -50mA$
		30	-	-		$V_{CE} = -1V, I_C = -100mA$
Transition frequency	f_T	250	-	-	MHz	$V_{CE} = -20V, I_E = 10mA, f = 100MHz$
Collector output capacitance	C_{ob}	-	-	4.5	pF	$V_{CB} = -10V, f = 100kHz, I_E = 0A$
Emitter input capacitance	C_{ib}	-	-	10	pF	$V_{CB} = -0.5V, f = 100kHz, I_C = 0A$
Delay time	t_d	-	-	35	ns	$V_{CC} = -3V, V_{BE(OFF)} = -0.5V, I_C = -10mA, I_{B1} = -1mA$
Rise time	t_r	-	-	35	ns	$V_{CC} = -3V, V_{BE(OFF)} = -0.5V, I_C = -10mA, I_{B1} = -1mA$
Storage time	t_{stg}	-	-	225	ns	$V_{CC} = -3V, I_C = -10mA, I_{B1} = -I_{B2} = -1mA$
Fall time	t_f	-	-	75	ns	$V_{CC} = -3V, I_C = -10mA, I_{B1} = -I_{B2} = -1mA$

Transistors

●Electrical characteristics curves



Transistors

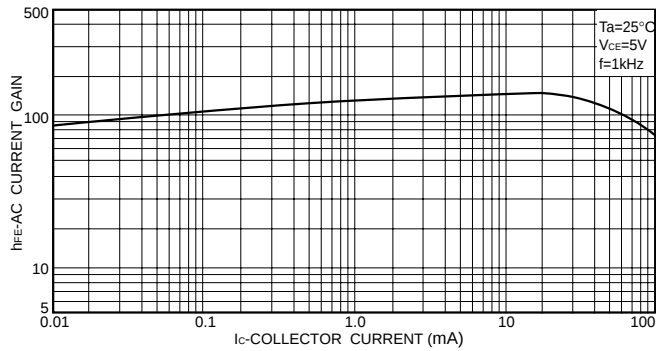


Fig.5 AC current gain vs. collector current

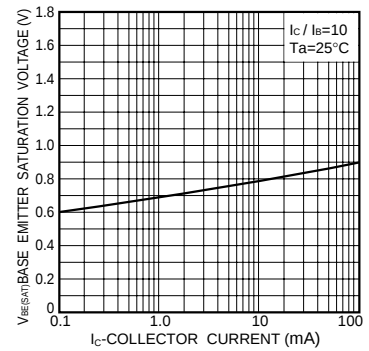


Fig.6 Base-emitter saturation voltage vs. collector current

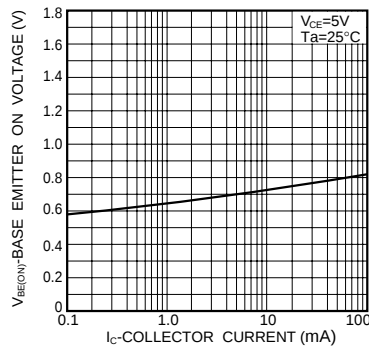


Fig.7 Grounded emitter propagation characteristics

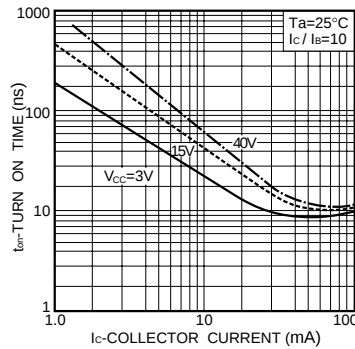


Fig.8 Turn-on time vs. collector current

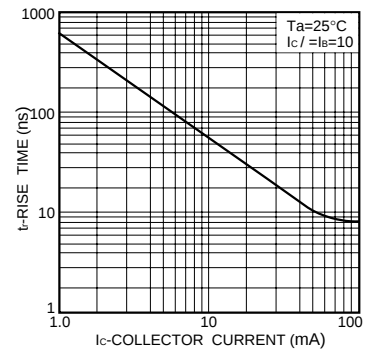


Fig.9 Rise time vs. collector current

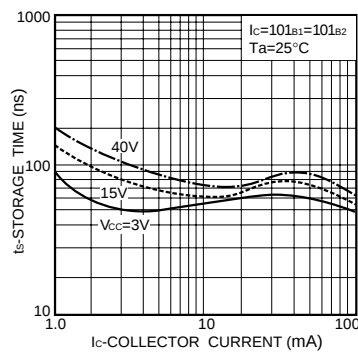


Fig.10 Storage time vs. collector current

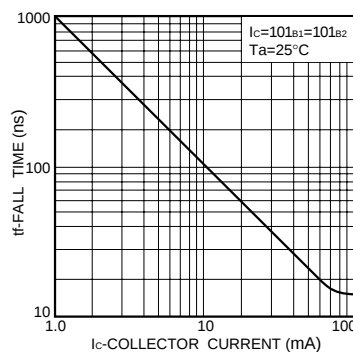


Fig.11 Fall time vs. collector current

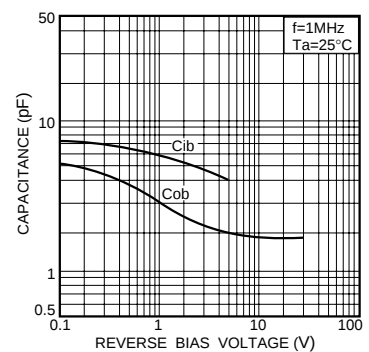


Fig.12 Input / output capacitance vs. voltage

Transistors

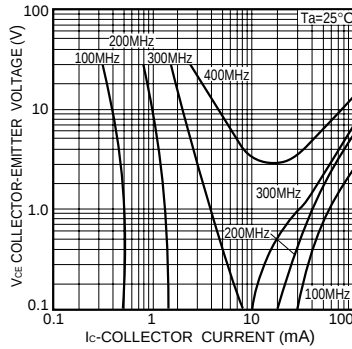


Fig.13 Gain bandwidth product

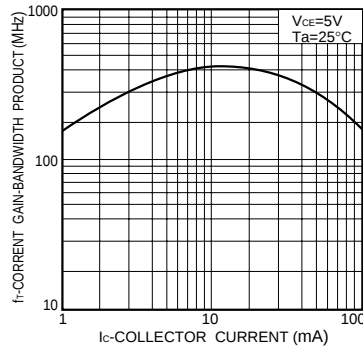


Fig.14 Gain bandwidth product vs. collector current

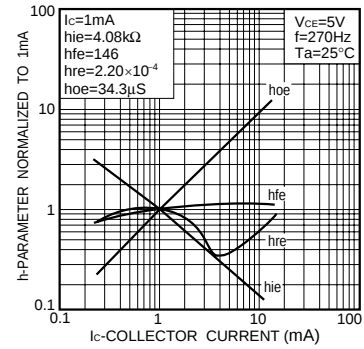


Fig.15 h parameter vs. collector current

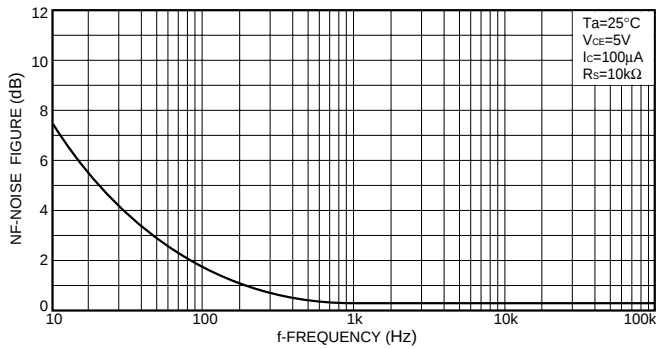


Fig.16 Noise vs. collector current

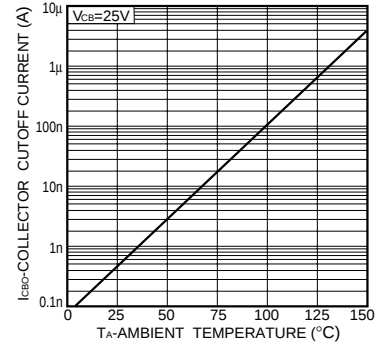


Fig.17 Noise characteristics (I)

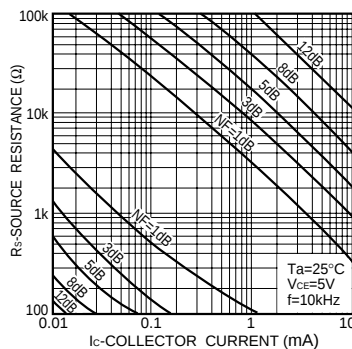


Fig.18 Noise characteristics (II)

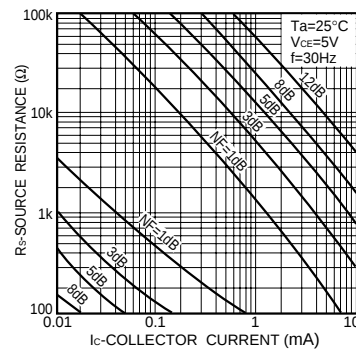


Fig.19 Noise characteristics (III)

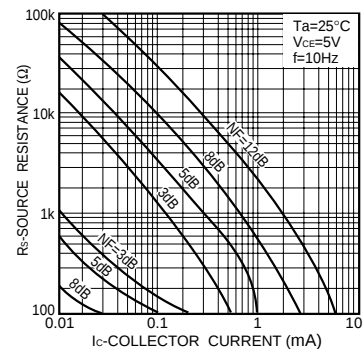


Fig.20 Noise characteristics (IV)

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