PNP General Purpose Transistor UMT3906/SST3906/MMST3906

Features

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

Package, marking, and packaging specifications

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

•Absolute maximum ratings (Ta=25°C)

Parameter		Symbol Limits		Unit	
Collector-base voltage		Vсво	-40	V	
Collector-emitter voltage		Vceo	-40	V	
Emitter-base voltage		Vebo	-5	V	
Collector current		lo	-0.2	A	
Collector Power dissipation	UMT3906 SST3906,MMST3906	Pd	6.2	W	
	SST3906,MMST3906		0.35	W *	
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	-55 to +150	°C	

•Dimensions (Unit : mm)



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

•Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-base breakdown voltage	ВУсво	-40	-	-	V	Ic=-10μA	
Collector-emitter breakdown voltage	BVCEO	-40	-	-	V	Ic=-1mA	
Emitter-base breakdown voltage	ВVево	-5	-	-	V	Iε=-10μA	
Collector cutoff current	ICES	-	-	-50	nA	Vcb=-30V	
Emitter cutoff current	Іево	-	-	-50	nA	V _{EB} =-3V	
Collector-emitter saturation voltage	Maria	-	-	-0.25	V	Ic/IB=-10mA/-1mA	
	VCE(sat)	-	-	-0.4		Ic/IB=-50mA/-5mA	
Base-emitter saturation voltage		-0.65	-	-0.85	V	Ic/IB=-10mA/-1mA	
	VBE(sat)	-	-	-0.95		Ic/IB=-50mA/-5mA	
DC current transfer ratio		60	-	-	-	Vce=-1V, Ic=-0.1mA	
		80	-	-		Vce=-1V, Ic=-1mA	
	hfe	100	-	300		Vce=-1V, lc=-10mA	
		60	-	-		Vce=-1V, Ic=-50mA	
		30	-	-		Vce=-1V, lc=-100mA	
Transition frequency	fт	250	-	-	MHz	Vce=-20V, Ie=10mA, f=100MHz	
Collector output capacitance	Cob	-	-	4.5	pF	V _{CB} =-10V, f=100kHz, I _E =0A	
Emitter input capacitance	Cib	-	-	10	pF	Vсв=-0.5V, f=100kHz, Iс=0А	
Delay time	td	-	-	35	ns	Vcc=-3V, VBE(OFF)=-0.5V,Ic=-10mA, IB1=-1mA	
Rise time	tr	-	-	35	ns	Vcc=-3V, VBE(OFF)=-0.5V,Ic=-10mA, IB1=-1mA	
Storage tiem	tstg	-	-	225	ns	Vcc=-3V, lc=-10mA, lb1=-lb2=-1mA	
Fall time	tf	-	-	75	ns	Vcc=-3V, lc=-10mA, lb1=-lb2=-1mA	



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Transistors

•Electrical characteristics curves





IC EMITTER COLLECTOR CURRENT (mA)

Fig.1 Grounded emitter output characteristics

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







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

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Transistors



Fig.5 AC current gain vs. collector current



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







Fig.8 Turn-on time vs. collector current



Fig.9 Rise time vs. collector current



Fig.10 Storage time vs. collector current



current



Fig.12 Input / output capacitance vs. voltage

Transistors

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Appendix1-Rev2.0

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