NPN Medium Power Transistor (Switching) UMT2222A / SST2222A / MMST2222A

Features

- 1) BVCEO > 40V (IC=10mA)
- Complements the UMT2907A / SST2907A / MMST2907A.

•Package, marking, and packaging specifications

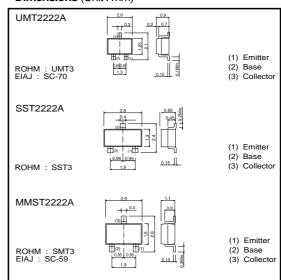
Part No.	UMT2222A	SST2222A	MMST2222A
Packaging type	UMT3	SST3	SMT3
Marking	R1P	R1P	R1P
Code	T106	T116	T146
Basic ordering unit (pieces)	3000	3000	3000

● Absolute maximum ratings (Ta = 25°C)

P	Symbol	Limits	Unit		
Collector-base voltage		Vсво	75	V	
Collector-emitter voltage		Vceo	40	V	
Emitter-base vol	VEBO	6 V			
Collector current		lc	lc 0.6		
Collector power	UMT2222A,SST2222A, MMST2222A		0.2	W	
dissipation	SST2222A	Pc	0.35	W *	
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	-55 to +150	°C	

^{*}When mounted on a 7 x 5 x 0.6 mm ceramic board

●Dimensions (Unit:mm)



●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	75	-	-	V	Ic=10μA
Collector-emitter breakdown voltage	BVceo	40	-	-	V	Ic=10mA
Emitter-base breakdown voltage	ВУево	6	-	-	V	IE=10μA
Collector cutoff current	Ісво	-	-	100	nA	VcB = 60V
Emitter cutoff current	Ієво	-	-	100	nA	V _{EB} = 3V
Collector-emitter saturation voltage	VCE(sat)	-	-	0.3	V	Ic/I _B =150mA/15mA
		-	-	1		Ic/IB=500mA/50mA
Base-emitter saturation voltage	VBE(sat)	0.6	-	1.2	V	Ic/I _B =150mA/15mA
	V BE(sat)	-	-	2		Ic/Is=500mA/50mA
DC current transfer ratio	hre	35	-	_	_	VcE=10V, Ic=0.1mA
		50	-	-		VcE=10V, Ic=1mA
		75	-	-		VcE=10V, Ic=10mA
		50	-	-		VcE=1V , Ic=150mA
		100	-	300		VcE=10V , Ic=150mA
		40	-	-		VcE=10V, Ic=500mA
Transition frequency	fτ	300	-	-	MHz	VcE=20V , Ic=-20mA, f=100MHz
Output capacitance	Cob	-	-	8	pF	Vcs=10V , f=100kHz
Emitter input capacitance	Cib	-	-	25	pF	VEB =0.5V , f =100kHz
Delay time	td	-	-	10	ns	Vcc=30V , VBE(OFF)=0.5V , Ic=150mA , IB1=15mA
Rise time	tr	-	-	25	ns	Vcc=30V , VBE(OFF)=0.5V , Ic=150mA , IB1=15mA
Storage time	tstg	-	-	225	ns	Vcc=30V, Ic=150mA, Is1=-Is2=15mA
Fall time	tf	-		60	ns	Vcc=30V, Ic=150mA, IB1=-IB2=15mA

•Electrical characteristic curves

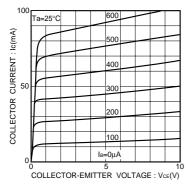


Fig.1 Grounded emitter output characteristics

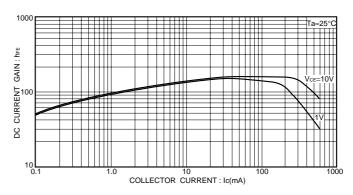


Fig.3 DC current gain vs. collector current(I)

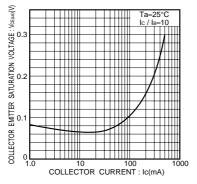


Fig.2 Collector-emitter saturation voltage vs. collector current

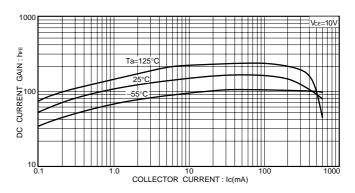


Fig.4 DC current gain vs. collector current(II)

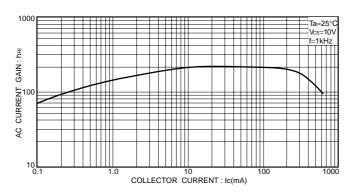


Fig.5 AC current gain vs. collector current

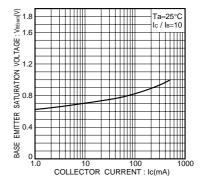


Fig.6 Base-emitter saturation voltage vs. collector current

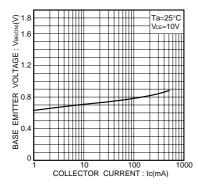


Fig.7 Grounded emitter propagation characteristics

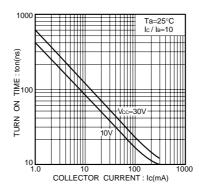


Fig.8 Turn-on time vs. collector current

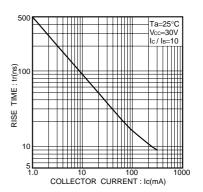


Fig.9 Rise time vs. collector current

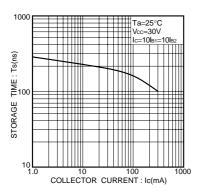


Fig.10 Storage time vs. collector current

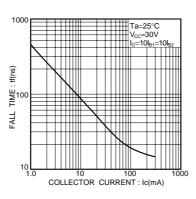


Fig.11 Fall time vs. collector current

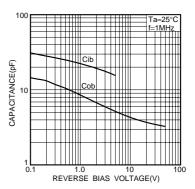


Fig.12 Input / output capacitance vs. voltage

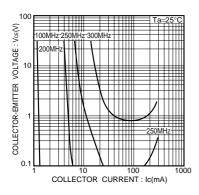


Fig.13 Gain bandwidth product

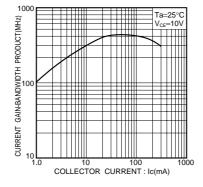


Fig.14 Gain bandwidth product vs. collector current

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