General Purpose Transistor (Isolated Dual Transistors)

EMT1/UMT1N/IMT1A

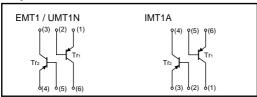
● Features

- 1) Two 2SA1037AK chips in a EMT or UMT or SMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

Epitaxial planar type PNP silicon transistor

●Equivalent circuit



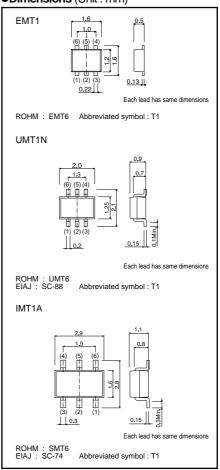
The following characteristics apply to both Tr₁ and Tr₂.

● Absolute maximum ratings (Ta = 25°C)

		<u> </u>	,		
Parameter		Symbol	Limits	Unit	
Collector-base voltage		Vсво	-60	V	
Collector-emitter voltage		VCEO	-50	V	
Emitter-base voltage		Vево	-6	V	
Collector current		Ic	-150	mA	
Collector	EMT1, UMT1N	Pc	150 (TOTAL)	*1 mW *2	
power dissipation	IMT1A	PC	300 (TOTAL)		
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	-55 to +150	°C	

- *1 120mW per element must not be exceeded.
- *2 200mW per element must not be exceeded.

●Dimensions (Unit:mm)



●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-60	-	-	V	Ic = -50μA
Collector-emitter breakdown voltage	BVceo	-50	-	-	V	Ic = -1mA
Emitter-base breakdown voltage	ВУЕВО	-6	-	-	V	Iε = −50μA
Collector cutoff current	Ісво	-	-	-0.1	μА	Vcb = -60V
Emitter cutoff current	ІЕВО	-	-	-0.1	μА	V _{EB} = -6V
Collector-emitter saturation voltage	VCE(sat)	-	-	-0.5	V	Ic/I _B = -50mA/-5mA
DC current transfer ratio	hfe	120	-	560	-	Vce = -6V, Ic = -1mA
Transition frequency	f⊤	-	140	-	MHz	Vce = -12V, Ie = 2mA, f = 100MHz
Output capacitance	Cob	_	4	5	pF	Vcb = -12V, IE = 0A, f = 1MHz

Packaging specifications

	Package	Taping		
	Code	T2R	TN	T110
Туре	Basic ordering unit (pieces)	8000	3000	3000
EMT1				
EMT1		0	-	-
EMT1 UMT1N		O -	- 0	-

•Electrical characteristic curves

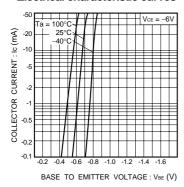


Fig.1 Grounded emitter propagation characteristics

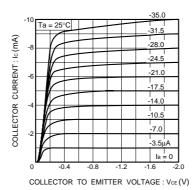


Fig.2 Grounded emitter output characteristics (I)

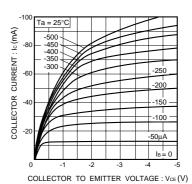


Fig.3 Grounded emitter output characteristics (II)

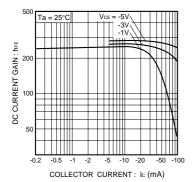


Fig.4 DC current gain vs. collector current (I)

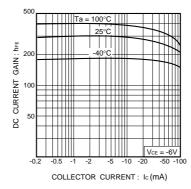


Fig.5 DC current gain vs. collector current (II)

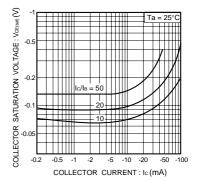


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

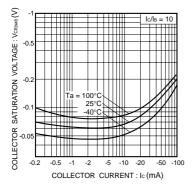


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

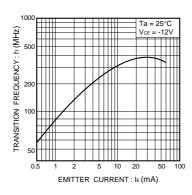


Fig.8 Gain bandwidth product vs. emitter current

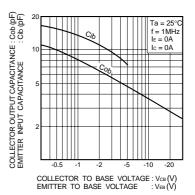


Fig.9 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

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ROHM CO., LTD. 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan

an TEL:+81-75-311-2121 FAX:+81-75-315-0172

