

# General purpose transistors(dual transistors)

## EMT18 / UMT18N / IMT18

### ●Features

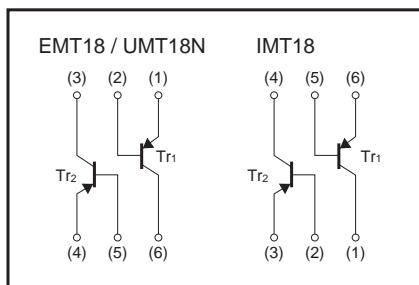
- 1) Two 2SA2018 chips in a EMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

### ●Structure

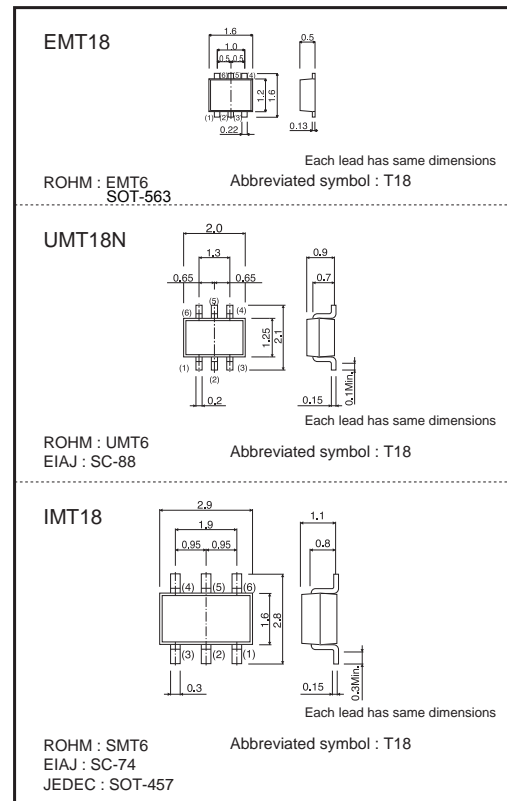
Epitaxial planar type  
PNP silicon transistor

The following characteristics apply to both Tr<sub>1</sub> and Tr<sub>2</sub>.

### ●Inner circuit



### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V <sub>CB0</sub>	-15	V	
Collector-emitter voltage	V <sub>CE0</sub>	-12	V	
Emitter-base voltage	V <sub>EB0</sub>	-6	V	
Collector current	I <sub>c</sub>	-500	mA	
	I <sub>CP</sub>	1.0 *1	A	
Power dissipation	P <sub>c</sub>	EMT6	150 (TOTAL)*2	mW
		UMT6		
		SMT6		
Junction temperature	T <sub>j</sub>	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

\*1 Single pulse P<sub>w</sub>=1ms

\*2 120mW per element must not be exceeded.

\*3 200mW per element must not be exceeded.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	-15	-	-	V	I <sub>C</sub> = -10μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-12	-	-	V	I <sub>C</sub> = -1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	-6	-	-	V	I <sub>E</sub> = -10μA
Collector cutoff current	I <sub>CB0</sub>	-	-	-0.1	μA	V <sub>CB</sub> = -15V
Emitter cutoff current	I <sub>EB0</sub>	-	-	-0.1	μA	V <sub>CB</sub> = -6V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-100	-250	mV	I <sub>C</sub> / I <sub>B</sub> = -200mA / -10mA
DC current transfer ratio	h <sub>FE</sub>	270	-	680	-	V <sub>CE</sub> = -2V, I <sub>C</sub> = -10mA
Transition frequency	f <sub>T</sub>	-	260	-	MHZ	V <sub>CE</sub> = -2V, I <sub>E</sub> =10mA, f=100MHZ
Output capacitance	C <sub>ob</sub>	-	6.5	-	pF	V <sub>CB</sub> = -10V, I <sub>E</sub> =0A, f=1MHZ

●Packaging specifications and h<sub>FE</sub>

Type	Package name	Taping		
	Code	T2R	TR	T110
	Basic ordering unit (pieces)	8000	3000	3000
EMT18	○	-	-	-
UMT18N	-	○	-	-
IMT18	-	-	-	○

●Electrical characteristic curves

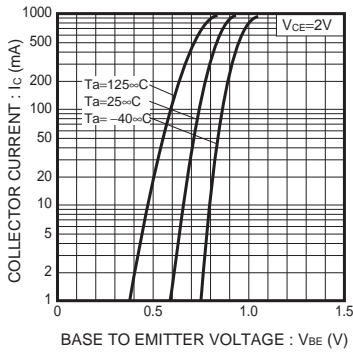


Fig.1 Grounded Emitter Propagation Characteristics

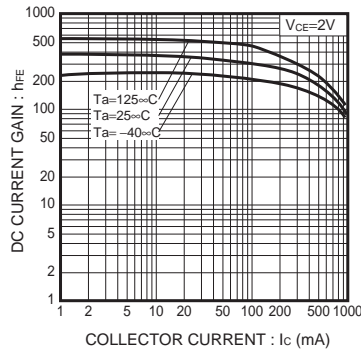


Fig.2 DC Current Gain vs. Collector Current

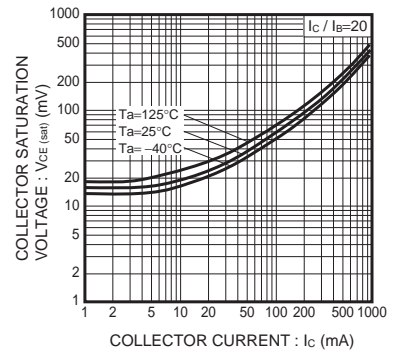


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

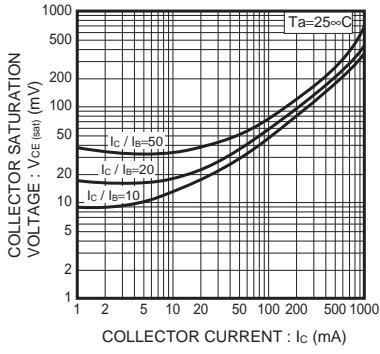


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

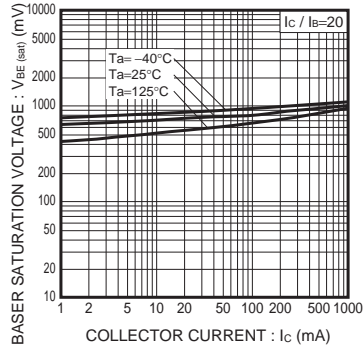


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

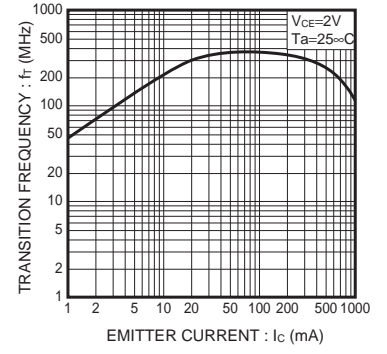


Fig.6 Gain Bandwidth Product vs. Emitter Current

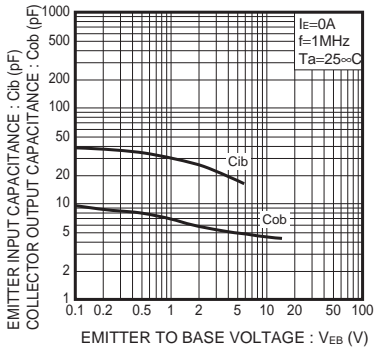


Fig.7 Collector Output Capacitance vs. Collector-Base Voltage  
Emitter Input Capacitance vs. Emitter-Base Voltage

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