

General purpose transistors (dual transistors)

EMT18 / UMT18N / IMT18

●Features

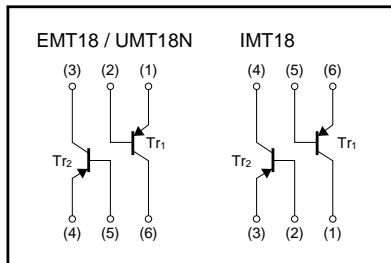
- 1) Two 2SA2018 chips in a EMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

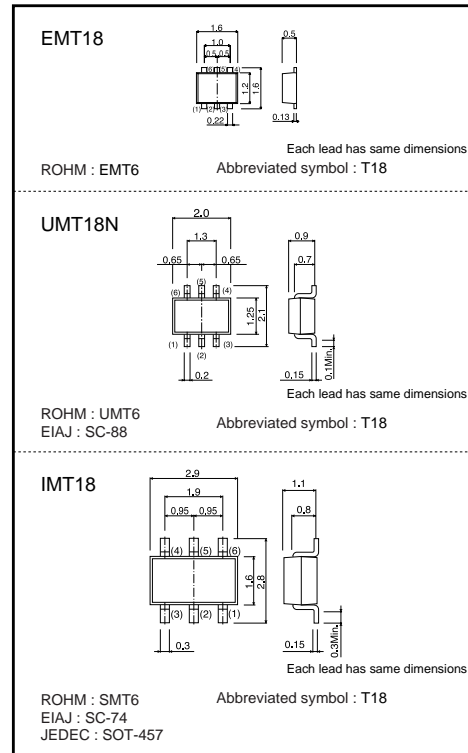
Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr₁ and Tr₂.

●Equivalent circuit



●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V _{CBO}	-15	V	
Collector-emitter voltage	V _{CEO}	-12	V	
Emitter-base voltage	V _{EBO}	-6	V	
Collector current	I _c	-500	mA	
	I _{CP}	1.0 *1	A	
Power dissipation	P _C	EMT6	150 (TOTAL)*2	mW
		UMT6		
		SMT6		
Junction temperature	T _j	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

*1 Single pulse P_w=1ms
*2 120mW per element must not be exceeded.
*3 200mW per element must not be exceeded.

Transistors

●Electrical characteristics (Ta=25°C)

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

●Packaging specifications and h_{FE}

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

●Electrical characteristic curves

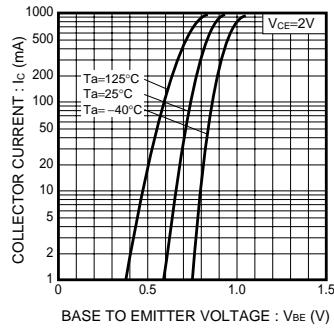


Fig.1 Grounded Emitter Propagation Characteristics

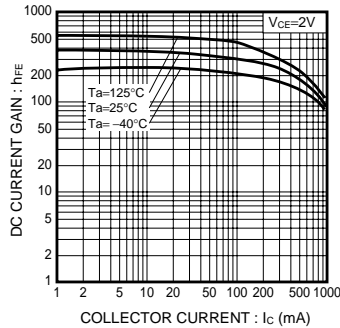


Fig.2 DC Current Gain vs. Collector Current

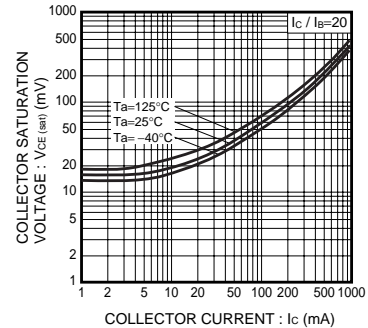


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

Transistors

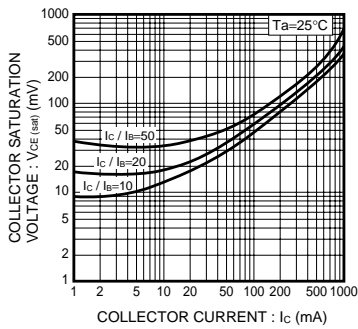


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

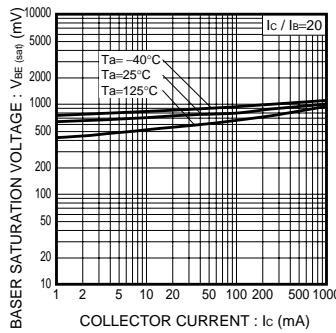


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

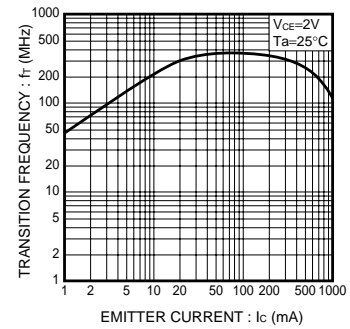


Fig.6 Gain Bandwidth Product vs. Emitter Current

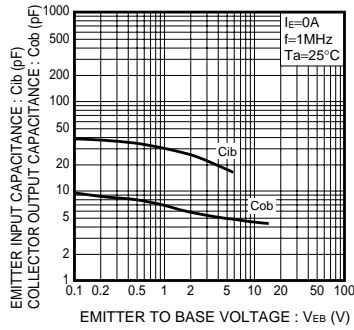


Fig.7 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage

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