

General purpose transistors (dual transistors)

EMT18 / UMT18N / IMT18

●Features

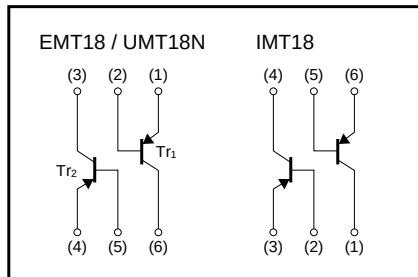
- 1) Two 2SA2018 chips in a EMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

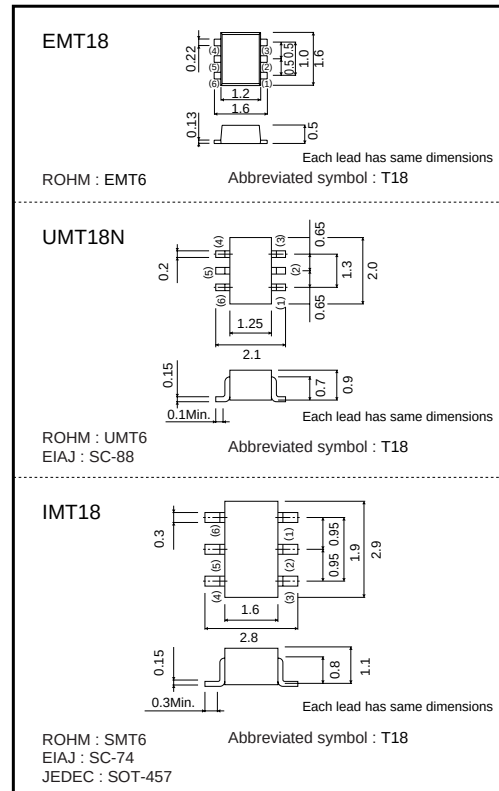
Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr₁ and Tr₂.

●Equivalent circuit



●External 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
Power dissipation	P _C	EMT6	150 (TOTAL) ^{*1}
		UMT6	
		SMT6	300 (TOTAL) ^{*2}
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

*1 120mW per element must not be exceeded.

*2 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_{CBO}	-15	—	—	V	$I_C = -10\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-12	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	-6	—	—	V	$I_E = -10\mu A$
Collector cutoff current	I_{CBO}	—	—	-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	$I_C / I_E = -200mA / -10mA$
DC current transfer ratio	h_{FE}	270	—	680	—	$V_{CE} = -2V, I_C = -10mA$
Transition frequency	f_T	—	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	TN	T110
	Basic ordering unit (pieces)	8000	3000	3000
EMT18		○	—	—
UMT18N		—	○	—
IMT18		—	—	○

●Electrical characteristic curves

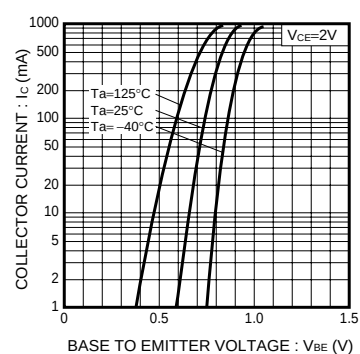


Fig.1 Grounded Emitter Propagation Characteristics

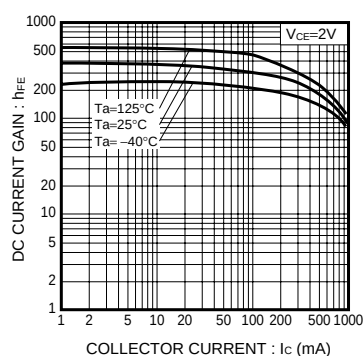


Fig.2 DC Current Gain vs. Collector Current

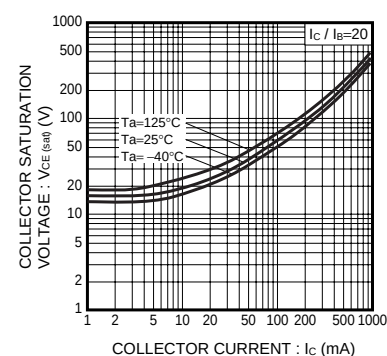


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

Transistors

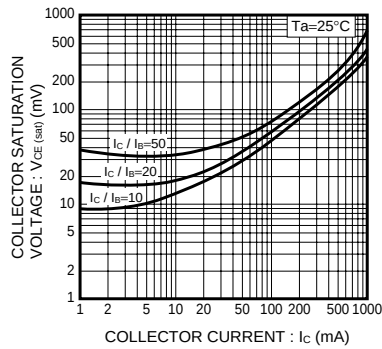


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

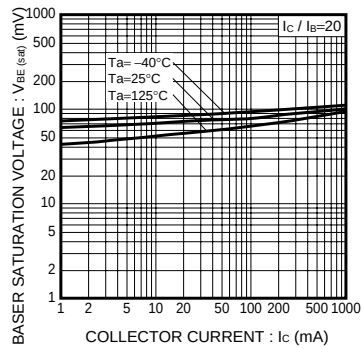


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

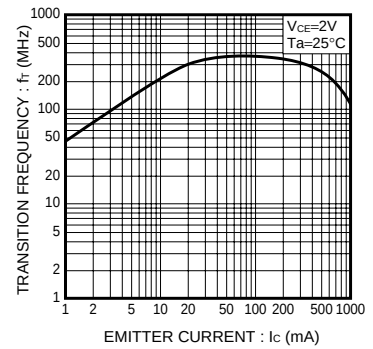


Fig.6 Gain Bandwidth Product vs. Emitter Current

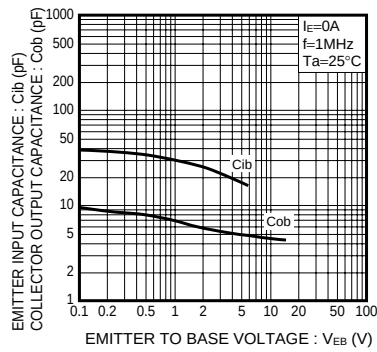


Fig.7 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage