

General purpose transistors (dual transistors)

EMT18 / UMT18N

●Features

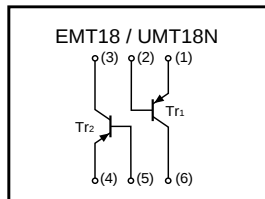
- 1) Two 2SA2018 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

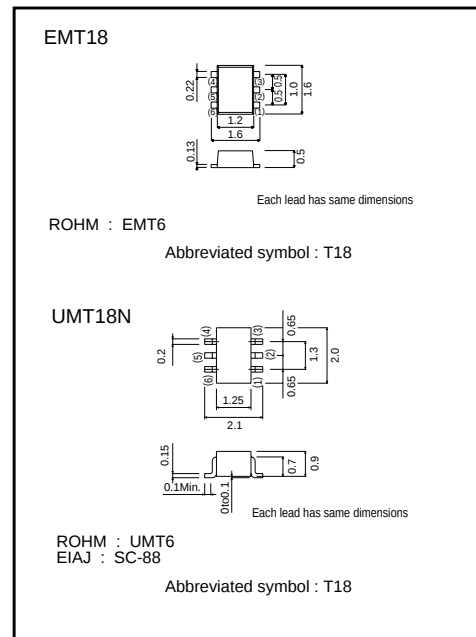
Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr1 and Tr2.

●Equivalent circuit



●External dimensions (Units : 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	150 (TOTAL)	mW *1
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

*1 120mW 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	$V_{EB} = -6V$
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_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

Type	Package	Taping	
	Code	T2R	TN
	Basic ordering unit (pieces)	8000	3000
EMT18		○	—
UMT18N		—	○

●Electrical characteristic curves

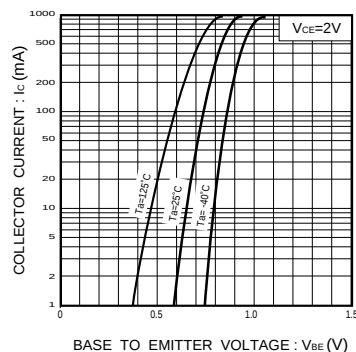


Fig.1 Grounded emitter propagation characteristics

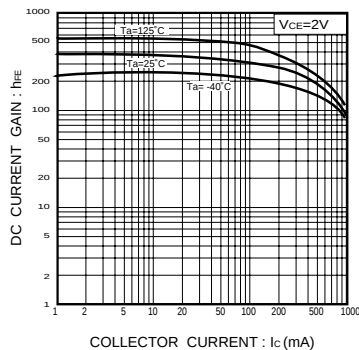


Fig.2 DC current gain vs. collector current

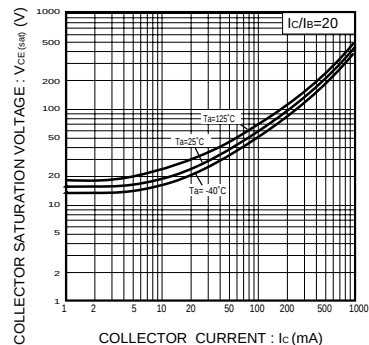


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

Transistors

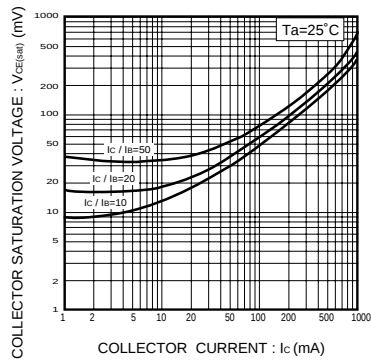


Fig.4 Collector-emitter saturation voltage vs. collector current

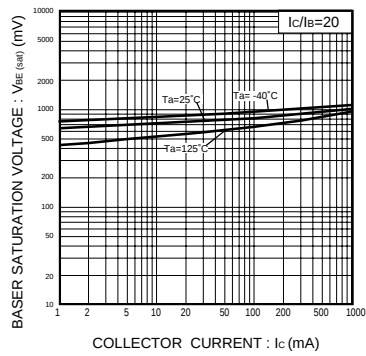


Fig.5 Base-emitter saturation voltage vs. collector current

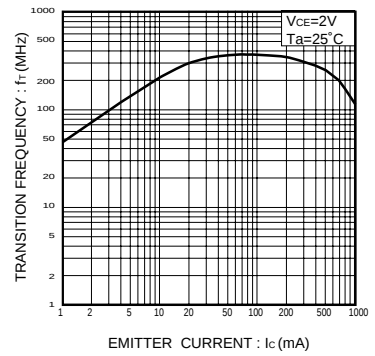


Fig.6 Gain bandwidth product vs. emitter current

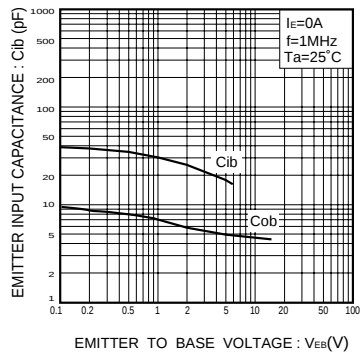


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage