

General purpose transistors (dual transistors)

EMX18 / UMX18N

●Features

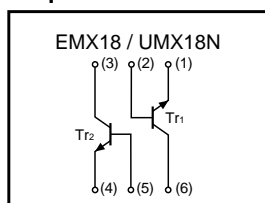
- 1) Two 2SC5585 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

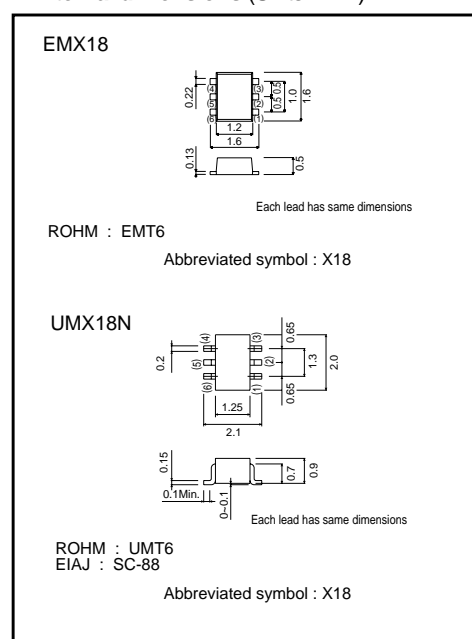
Epitaxial planar type
NPN silicon transistor

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 _d	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 _{CB0}	15	–	–	V	I _C =10μA
Collector-emitter breakdown voltage	BV _{CEO}	12	–	–	V	I _C =1mA
Emitter-base breakdown voltage	BV _{EBO}	6	–	–	V	I _E =10μA
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)}	–	90	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	–	320	–	MHz	V _{CE} =2V, I _E =–10mA, f=100MHz
Output capacitance	C _{ob}	–	7.5	–	PF	V _{CB} =10V, I _E =0A, f=1MHz

●Packaging specifications

Type	Package	Taping	
	Code	T2R	TN
	Basic ordering unit (pieces)	8000	3000
EMX18	○	—	—
UMX18N	—	—	○

●Electrical characteristic curves

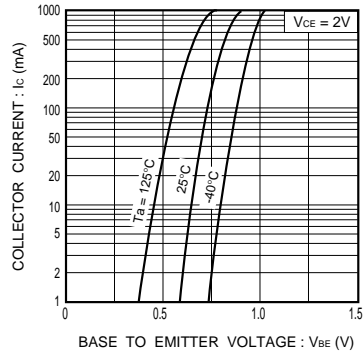


Fig.1 Grounded emitter propagation characteristics

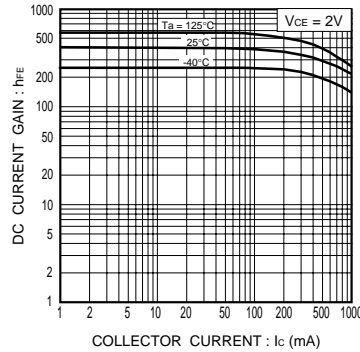


Fig.2 DC current gain vs. collector current

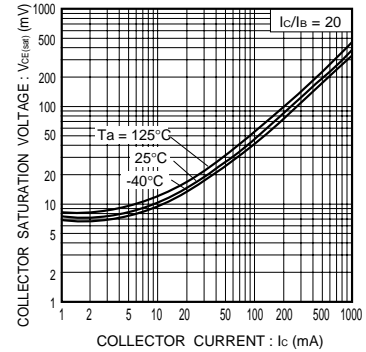


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

Transistors

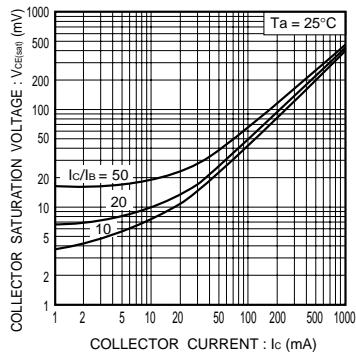


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

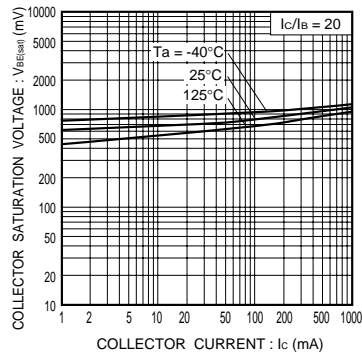


Fig.5 Base-emitter saturation voltage vs. collector current

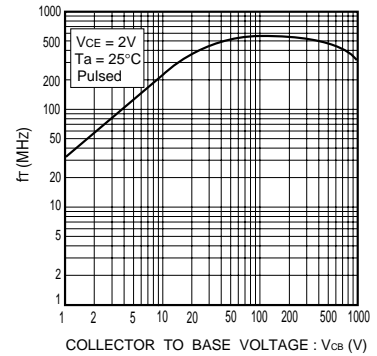


Fig.6 Collector output capacitance
Emitter input capacitance vs. base voltage

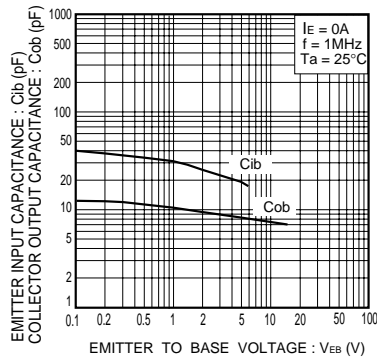


Fig.7 Collector output capacitance vs collector-base voltage
Emitter input capacitance vs emitter-base voltage