

EMX18 / UMX18N

Transistors

# General purpose transistors (dual transistors)

## EMX18 / UMX18N

●Features

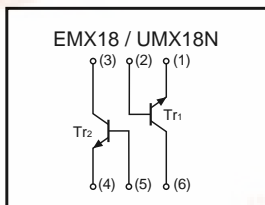
- 1) Two 2SC5585 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

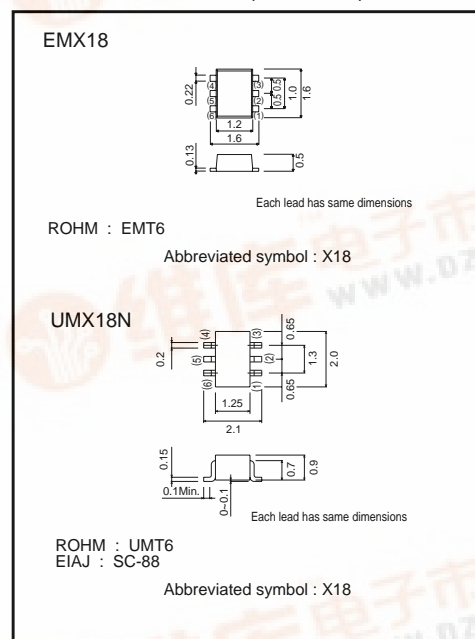
Epitaxial planar type  
NPN silicon transistor

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

●Equivalent circuit



●External dimensions (Units : 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
Power dissipation	P <sub>d</sub>	150 (TOTAL)	mW *1
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\*1 120mW per element must not be exceeded.

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●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</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>EBO</sub>	6	–	–	V	I <sub>E</sub> =10μA
Collector cutoff current	I <sub>CBO</sub>	–	–	0.1	μA	V <sub>CB</sub> =15V
Emitter cutoff current	I <sub>EBO</sub>	–	–	0.1	μA	V <sub>EB</sub> =6V
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	–	90	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>	–	320	–	MHz	V <sub>CE</sub> =2V, I <sub>E</sub> =–10mA, f=100MHz
Output capacitance	C <sub>ob</sub>	–	7.5	–	PF	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz

●Packaging specifications

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

●Electrical characteristic curves

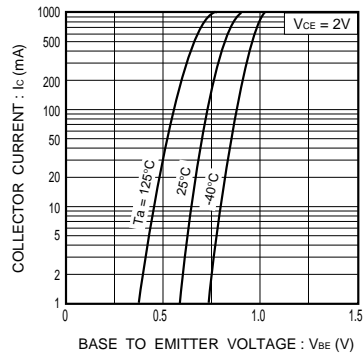


Fig.1 Grounded emitter propagation characteristics

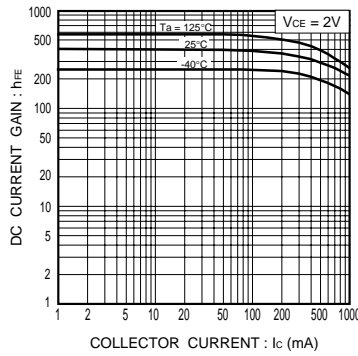


Fig.2 DC current gain vs. collector current

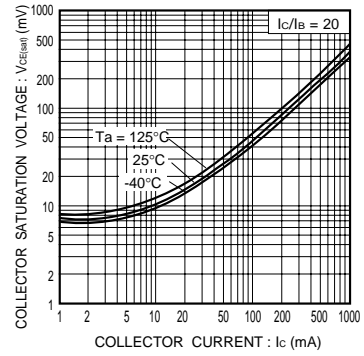


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

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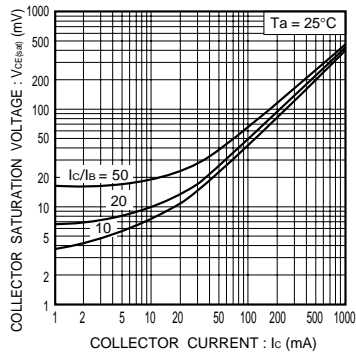


Fig.4 Collector-emitter saturation voltage vs. collector current ( II )

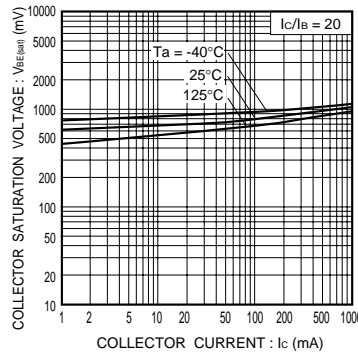


Fig.5 Base-emitter saturation voltage vs. collector current

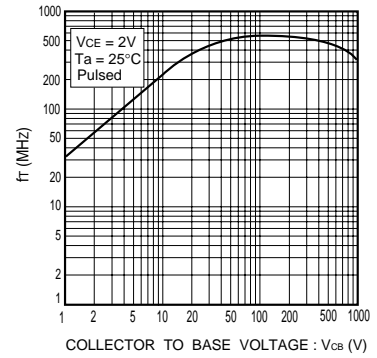


Fig.6 Collector output capacitance  
Emitter input capacitance vs. base voltage

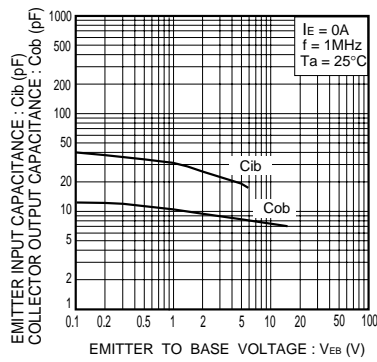


Fig.7 Collector output capacitance vs collector-base voltage  
Emitter input capacitance vs emitter-base voltage