

General purpose transistors (dual transistors)

EMX18 / UMX18N

●Features

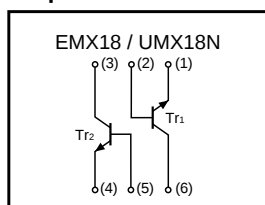
- 1) Two 2SC5585 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

Epitaxial planar type
NPN silicon transistor

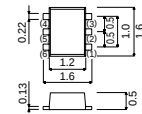
The following characteristics apply to both Tr1 and Tr2.

●Equivalent circuit



●External dimensions (Units : mm)

EMX18

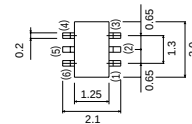


Each lead has same dimensions

ROHM : EMT6

Abbreviated symbol : X18

UMX18N



Each lead has same dimensions

ROHM : UMT6
EIAJ : SC-88

Abbreviated symbol : X18

●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_{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	$V_{CE(sat)}$	—	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

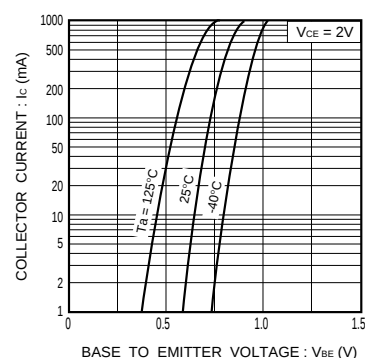


Fig.1 Grounded emitter propagation characteristics

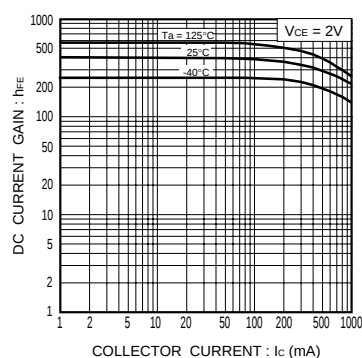


Fig.2 DC current gain vs. collector current

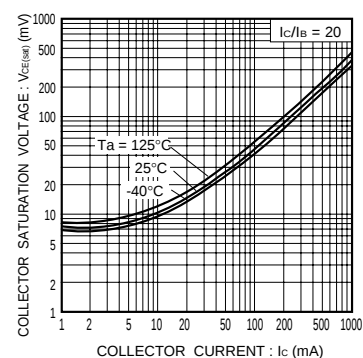


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

Transistors

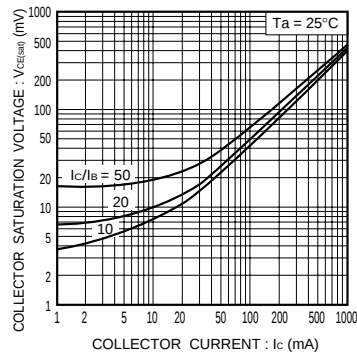


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

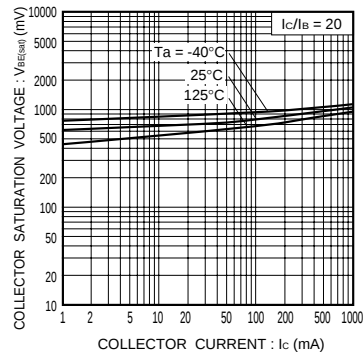


Fig.5 Base-emitter saturation voltage vs. collector current

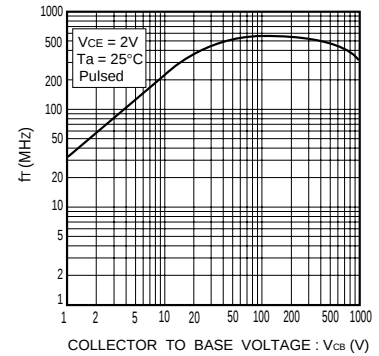


Fig.6 Collector output capacitance Emitter input capacitance vs. base voltage

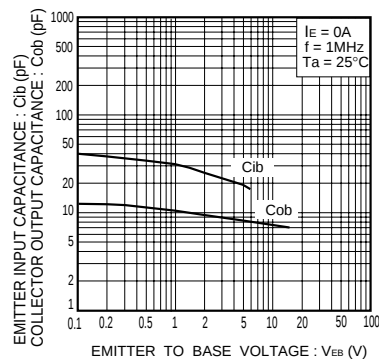


Fig.7 Collector output capacitance vs collector-base voltage Emitter input capacitance vs emitter-base voltage