

EMX18 / UMX18N

Transistors

# General purpose transistors (dual transistors)

## EMX18 / UMX18N

●Features

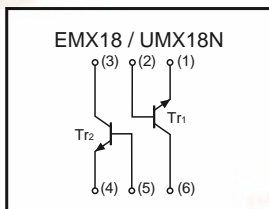
- 1) Two 2SC5585 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

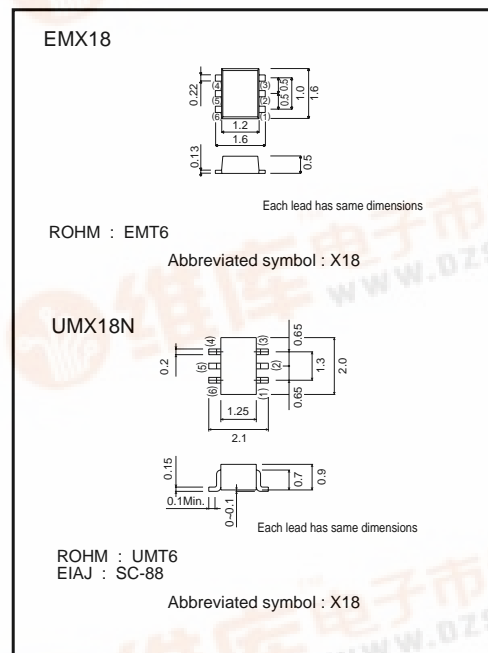
Epitaxial planar type  
NPN silicon transistor

The following characteristics apply to both Tr1 and Tr2.

●Equivalent circuit



●External dimensions (Unit : 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
	I <sub>cP</sub>	1.0	A
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 to +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	$BV_{CBO}$	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	$\mu A$	$V_{CB}=15V$
Emitter cutoff current	$I_{EBO}$	-	-	0.1	$\mu A$	$V_{EB}=6V$
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

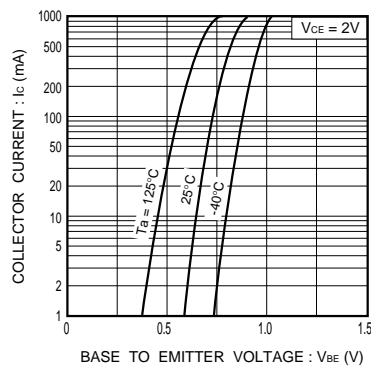


Fig.1 Grounded emitter propagation characteristics

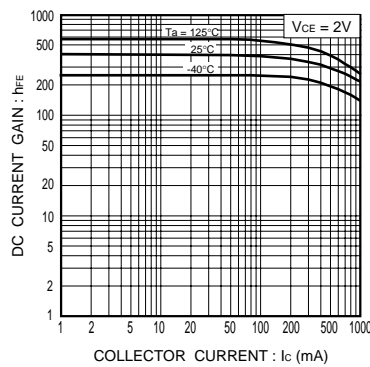


Fig.2 DC current gain vs. collector current

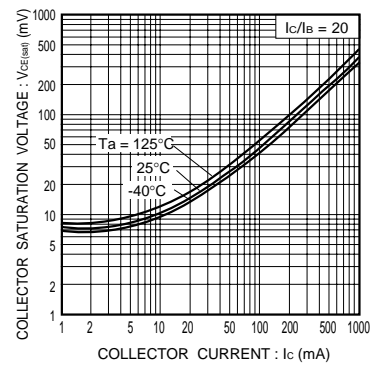


Fig.3 Collector-emitter saturation voltage vs. collector current ( I )

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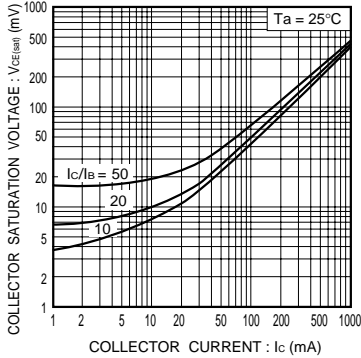


Fig.4 Collector-emitter saturation voltage vs. collector current ( II )

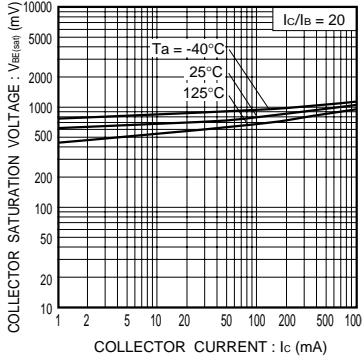


Fig.5 Base-emitter saturation voltage vs. collector current

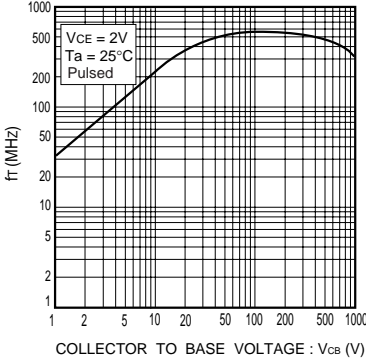


Fig.6 Collector output capacitance Emitter input capacitance vs. base voltage

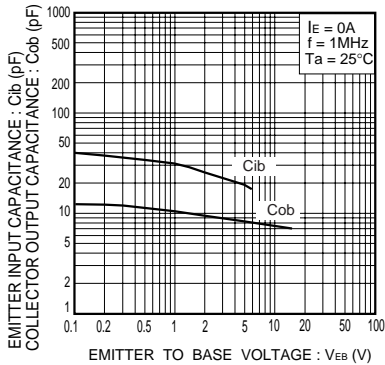


Fig.7 Collector output capacitance vs collector-base voltage Emitter input capacitance vs emitter-base voltage

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