General purpose transistors (dual transistors)

EMX18 / UMX18N

●Features

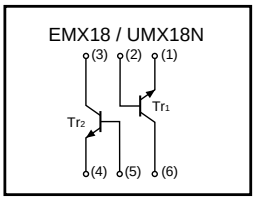
1) Two 2SC5585 chips in a EMT or UMT package.
2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
3) Transistor elements are independent, eliminating interference.
4) Mounting cost and area can be cut in half.

●Structure

Epitaxial planar type
NPN silicon transistor

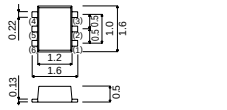
The following characteristics apply to both Tr_1 and Tr_2.

●Equivalent circuit



●External dimensions (Units : mm)

EMX18

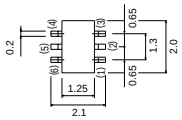


Each lead has same dimensions

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	Pd	150 (TOTAL)	mW ＊1
Junction temperature	Tj	150	˚C
Storage temperature	Tstg	−55~+150	˚C

＊1 120mW per element must not be exceeded.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	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	Cob	–	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

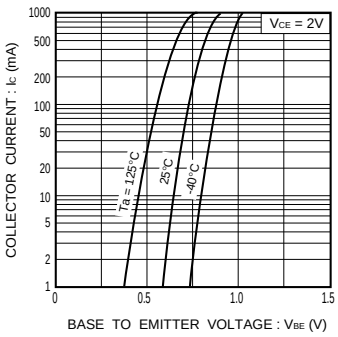


Fig.1 Grounded emitter propagation characteristics

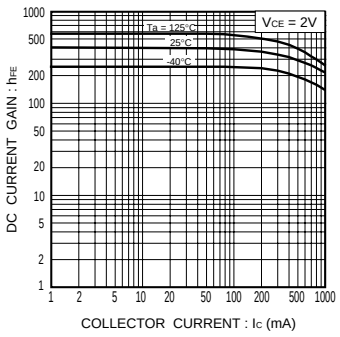


Fig.2 DC current gain vs. collector current

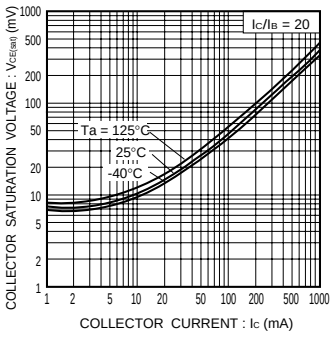


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

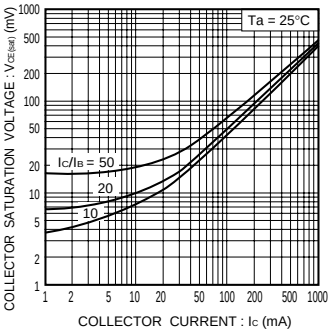


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

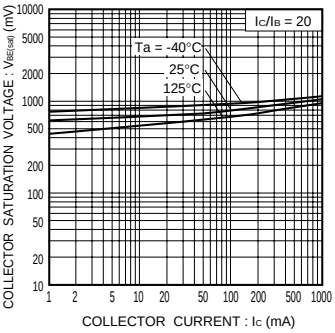


Fig.5 Base-emitter saturation voltage vs. collector current

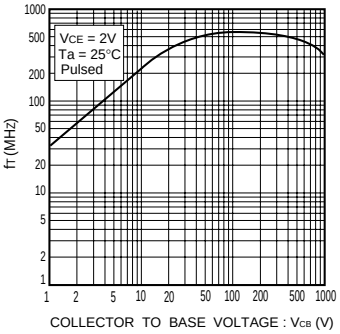


Fig.6 Collector output capacitance
Emitter input capacitance
vs. base voltage

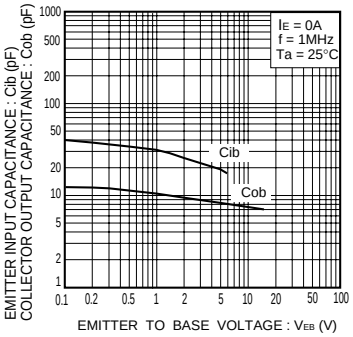


Fig.7 Collector output capacitance
vs collector-base voltage
Emitter input capacitance
vs emitter-base voltage