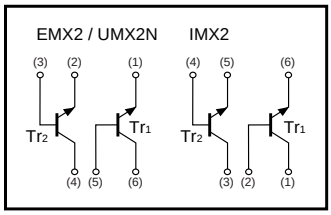
General purpose (dual transistors)

EMX2 / UMX2N / IMX2

●Features

1) Two 2SC2412AK chips in a EMT or UMT or SMT package.

●Equivalent circuits



●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	60	V
Collector-emitter voltage		V_{CEO}	50	V
Emitter-base voltage		V_{EBO}	7	V
Collector current		I_C	150	mA
Collector power dissipation	EMX2 / UMX2N	P_C	150(TOTAL)	mW ∗1
	IMX2		300(TOTAL)	∗2
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

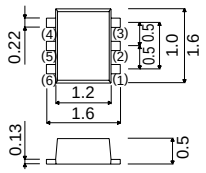
∗1 120mW per element must not be exceeded.
∗2 200mW per element must not be exceeded.

●Package, marking, and packaging specifications

Type	EMX2	UMX2N	IMX2
Package	EMT6	UMT6	SMT6
Marking	X2	X2	X2
Code	T2R	TR	T108
Basic ordering unit (pieces)	8000	3000	3000

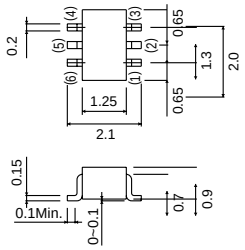
●External dimensions (Unit : mm)

EMX2



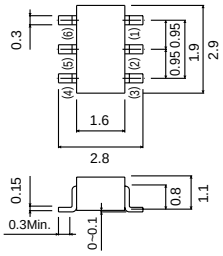
ROHM : EMT6 Each lead has same dimensions

UMX2N



ROHM : UMT6
EIAJ : SC-88
Each lead has same dimensions

IMX2



ROHM : SMT6
EIAJ : SC-74
Each lead has same dimensions

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	–	–	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CEO}	50	–	–	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	7	–	–	V	I_E=50μA
Collector cutoff current	I_{CBO}	–	–	0.1	μA	V_{CB}=60V
Emitter cutoff current	I_{EBO}	–	–	0.1	μA	V_{EB}=7V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.4	V	I_C/I_B=50mA/5mA
DC current transfer ratio	h_{FE}	120	–	560	–	V_{CE}=6V, I_C=1mA
Transition frequency	f_T	–	180	–	MHz	V_{CE}=12V, I_E= –2mA, f=100MHz *
Output capacitance	Cob	–	2	3.5	pF	V_{CB}=12V, I_E=0mA, f=1MHz

*Transition frequency of the device.

●Electrical characteristics curves

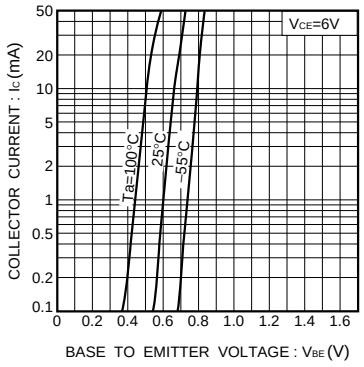


Fig.1 Grounded emitter propagation characteristics

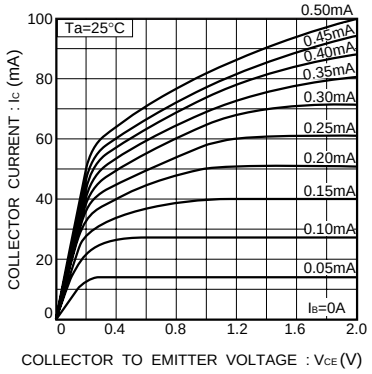


Fig.2 Grounded emitter output characteristics (I)

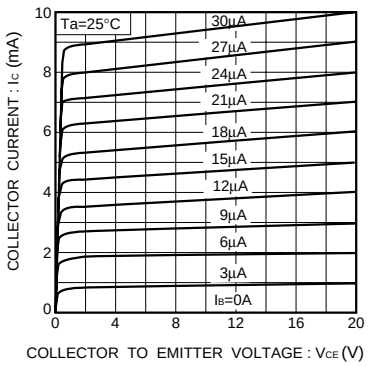


Fig.3 Grounded emitter output characteristics (II)

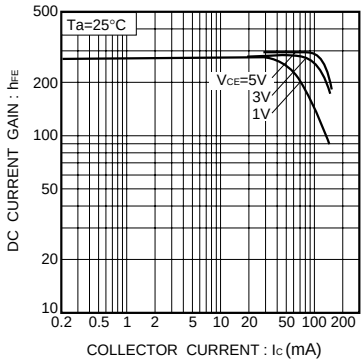


Fig.4 DC current gain vs. collector current (I)

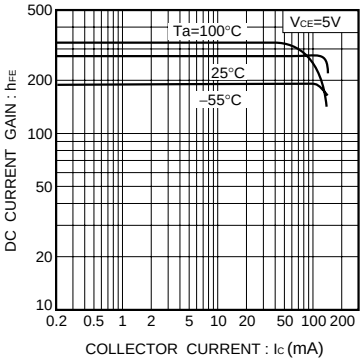


Fig.5 DC current gain vs. collector current (II)

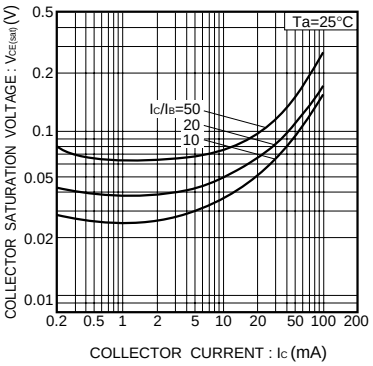


Fig. 6 Collector-emitter saturation voltage vs. collector current

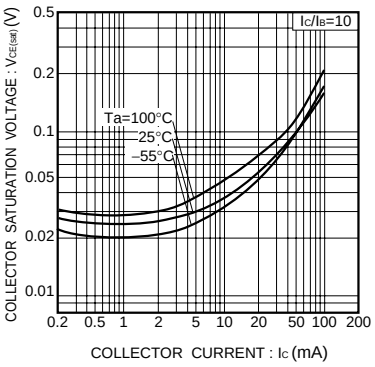


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

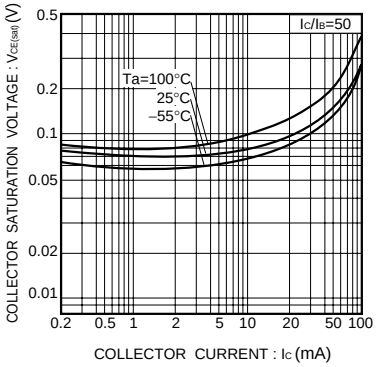


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

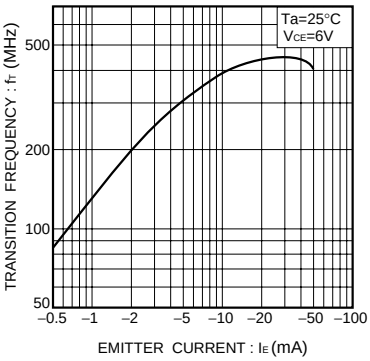


Fig.9 Gain bandwidth product vs. emitter current

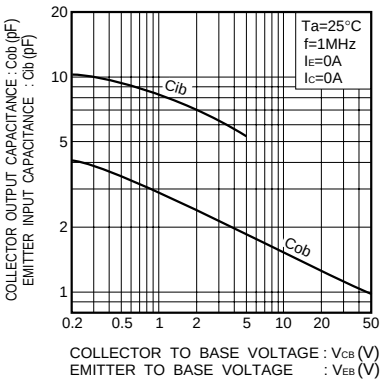


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

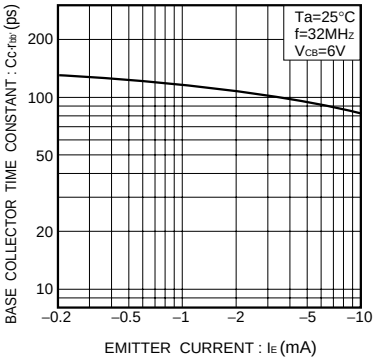


Fig.11 Base-collector time constant vs. emitter current

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