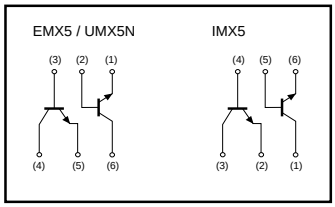
High transition frequency (dual transistors)

EMX5 / UMX5N / IMX5

●Features

1) Two 2SC3838K chips in a EMT or UMT or SMT package.
2) High transition frequency. (f_T=3.2GHz)
3) Low output capacitance. (Cob=0.9pF)

●Equivalent circuits



●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit	
Collector-base voltage		V_{CBO}	20	V	
Collector-emitter voltage		V_{CEO}	11	V	
Emitter-base voltage		V_{EBO}	3	V	
Collector current		I_C	50	mA	
Collector power dissipation	EMX5 / UMX5N	Pc	150(TOTAL)	mW	∗1
	IMX5		300(TOTAL)		∗2
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	−55~+150	°C	

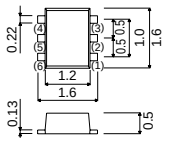
∗1 120mW per element must not be exceeded.
∗2 200mW per element must not be exceeded.

●Package, marking, and packaging specifications

Type	EMX5	UMX5N	IMX5
Package	EMT5	UMT6	SMT6
Marking	X5	X5	X5
Code	T2R	TR	T108
Basic ordering unit (pieces)	8000	3000	3000

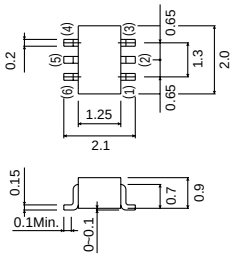
●External dimensions (Units : mm)

EMX6



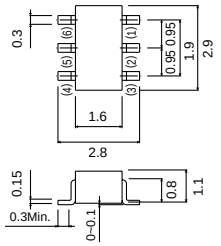
ROHM : EMT6 Each lead has same dimensions

UMX5N



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

IMX5



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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	20	–	–	V	I_C=10μA
Collector-emitter breakdown voltage	BV_{CEO}	11	–	–	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	3	–	–	V	I_E=10μA
Collector cutoff current	I_{CBO}	–	–	0.5	μA	V_{CB}=10V
Emitter cutoff current	I_{EBO}	–	–	0.5	μA	V_{EB}=2V
DC current transfer ratio	h_{FE}	27	–	270	–	V_{CE}/I_C=10V/5mA
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.5	V	I_C/I_B=10mA/5mA
h_{FE} pairing	h_{FE1}/h_{FE2}	0.5	1	2	–	V_{CE}/I_C=10V/5mA
Transition frequency	f_T	1.4	3.2	–	GHz	V_{CE}/I_C=10V/10mA, f=200MHz ∗
Output capacitance	Cob	–	0.9	1.55	pF	V_{CB}/f=10V/1MHz, I_E=0A

∗Transition frequency of the device.

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