

Transistors

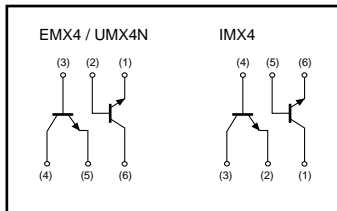
High transition frequency (dual transistors)

EMX4 / UMX4N / IMX4

●Features

- 1) Two 2SC3837K chips in a EMT or UMT or SMT package.
- 2) High transition frequency. ($f_T=1.5\text{GHz}$)
- 3) Low output capacitance. ($C_{ob}=0.95\text{pF}$)

●Equivalent circuits



●Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	30	V
Collector-emitter voltage	V_{CE0}	18	V
Emitter-base voltage	V_{EB0}	3	V
Collector current	I_c	50	mA
Collector power dissipation	EMX4 / UMX4N	150(TOTAL)	mW *1
	IMX4	300(TOTAL)	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~+150	$^\circ\text{C}$

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

●Package, marking, and packaging specifications

Type	EMX4	UMX4N	IMX4
Package	EMT6	UMT6	SMT6
Marking	X4	X4	X4
Code	T2R	TR	T108
Basic ordering unit (pieces)	8000	3000	3000

●Electrical characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CB0}	30	-	-	V	$I_c=10\mu\text{A}$
Collector-emitter breakdown voltage	BV_{CE0}	18	-	-	V	$I_c=1\text{mA}$
Emitter-base breakdown voltage	BV_{EB0}	3	-	-	V	$I_E=10\mu\text{A}$
Collector cutoff current	I_{CB0}	-	-	0.5	μA	$V_{CB}=10\text{V}$
Emitter cutoff current	I_{EB0}	-	-	0.5	μA	$V_{EB}=2\text{V}$
DC current transfer ratio	h_{FE}	27	-	270	-	$V_{CE}/I_c=10\text{V}/10\text{mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_c/I_E=20\text{mA}/4\text{mA}$
h_{FE} pairing	h_{FE1}/h_{FE2}	0.5	1	2	-	$V_{CE}/I_c=10\text{V}/10\text{mA}$
Transition frequency	f_T	600	1500	-	MHz	$V_{CE}/I_c=10\text{V}/10\text{mA}$, $f=200\text{MHz}$ *
Output capacitance	C_{ob}	-	0.95	1.6	pF	$V_{CB}/f=10\text{V}/1\text{MHz}$, $I_E=0\text{A}$

*Transition frequency of the device.

●External dimensions (Units : mm)

