

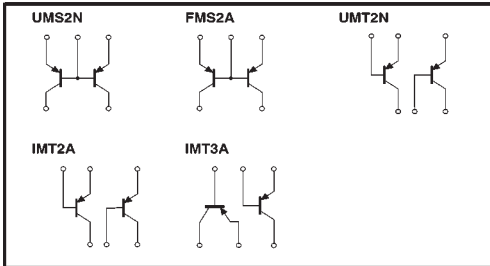
# General purpose (dual transistors)

UMS2N / UMT2N / FMS2A / IMT2A / IMT3A

●Features

1) Two 2SA1037AK chips in a UMT or SMT package.

●Circuit diagrams



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CS0</sub>	-60	—	—	V	I <sub>C</sub> =-50 μA
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	-50	—	—	V	I <sub>C</sub> =-1mA
Emitter-base breakdown voltage	BV <sub>ES0</sub>	-6	—	—	V	I <sub>E</sub> =-50 μA
Collector cutoff current	I <sub>CS0</sub>	—	—	-0.1	μA	V <sub>CB</sub> =-60V
Emitter cutoff current	I <sub>ES0</sub>	—	—	-0.1	μA	V <sub>EB</sub> =-6V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	-0.5	V	I <sub>C</sub> /I <sub>E</sub> =-50mA/-5mA
DC current transfer ratio	h <sub>FE</sub>	120	—	560	—	V <sub>CE</sub> =-6V, I <sub>C</sub> =-1mA
Transition frequency	f <sub>T</sub>	—	140	—	MHz	V <sub>CE</sub> =-12V, I <sub>E</sub> =2mA, f=100MHz *
Output capacitance	C <sub>ob</sub>	—	4	5	pF	V <sub>CB</sub> =-12V, I <sub>E</sub> =0A, f=1MHz

\* Transition frequency of the device.

(94S-366-A032)

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CS0</sub>	-60	V
Collector-emitter voltage	V <sub>CE0</sub>	-50	V
Emitter-base voltage	V <sub>ES0</sub>	-6	V
Collector current	I <sub>C</sub>	150	mA
Collector power dissipation	P <sub>C</sub>	150 (TOTAL) 300 (TOTAL)	mW *1 *2
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

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

●Package, marking, and packaging specifications

Part No.	UMS2N	UMT2N	FMS2A	IMT2A	IMT3A
Package	UMT5	UMT6	SMT5	SMT6	SMT6
Marking	S2	T2	S2	T2	T3
Code	TR	TR	T148	T108	T108
Basic ordering unit (pieces)	3000	3000	3000	3000	3000

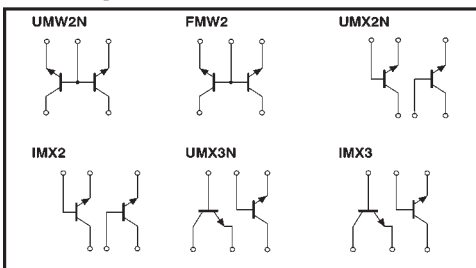
# General purpose (dual transistors)

UMW2N / UMX2N / UMX3N / FMW2 / IMX2 / IMX3

●Features

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

●Circuit diagrams



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CS0</sub>	60	—	—	V	I <sub>C</sub> =50 μA
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	50	—	—	V	I <sub>C</sub> =1mA
Emitter-base breakdown voltage	BV <sub>ES0</sub>	7	—	—	V	I <sub>E</sub> =50 μA
Collector cutoff current	I <sub>CS0</sub>	—	—	0.1	μA	V <sub>CB</sub> =60V
Emitter cutoff current	I <sub>ES0</sub>	—	—	0.1	μA	V <sub>EB</sub> =7V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	0.4	V	I <sub>C</sub> /I <sub>E</sub> =50mA/5mA
DC current transfer ratio	h <sub>FE</sub>	120	—	560	—	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA
Transition frequency	f <sub>T</sub>	—	180	—	MHz	V <sub>CE</sub> =12V, I <sub>E</sub> =-2mA, f=100MHz *
Output capacitance	C <sub>ob</sub>	—	2	3.5	pF	V <sub>CB</sub> =12V, I <sub>E</sub> =0mA, f=1kHz

\* Transition frequency of the device.

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CS0</sub>	60	V
Collector-emitter voltage	V <sub>CE0</sub>	50	V
Emitter-base voltage	V <sub>ES0</sub>	7	V
Collector current	I <sub>C</sub>	150	mA
Collector power dissipation	P <sub>C</sub>	150 (TOTAL) 300 (TOTAL)	mW *1 *2
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

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

●Package, marking, and packaging specifications

Part No.	UMW2N	UMX2N	UMX3N	FMW2	IMX2	IMX3
Package	UMT5	UMT6	UMT6	SMT5	SMT6	SMT6
Marking	W2	X2	X3	W2	X2	X3
Code	TR	TR	TR	T148	T108	T108
Basic ordering unit (pieces)	3000	3000	3000	3000	3000	3000

(96-427-C022)