

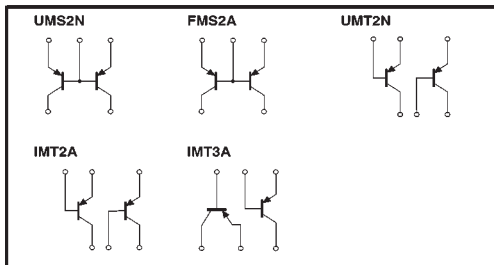
General purpose (dual transistors)

UMS2N / UMT2N / FMS2A / IMT2A / IMT3A

●Features

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

●Circuit diagrams



●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}	-6	V
Collector current	I_C	150	mA
Collector power dissipation	P_C	150 (TOTAL) 300 (TOTAL)	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-60	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-50	—	—	V	$I_C = -1 mA$
Emitter-base breakdown voltage	BV_{EBO}	-6	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	I_{CBO}	—	—	-0.1	μA	$V_{CB} = -60V$
Emitter cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.5	V	$I_C/I_E = -50mA/-5mA$
DC current transfer ratio	h_{FE}	120	—	560	—	$V_{CE} = -6V, I_C = -1mA$
Transition frequency	f_T	—	140	—	MHz	$V_{CE} = -12V, I_E = 2mA, f = 100MHz$
Output capacitance	C_{ob}	—	4	5	pF	$V_{CB} = -12V, I_E = 0A, f = 1MHz$

* Transition frequency of the device.

(94S-366-A032)

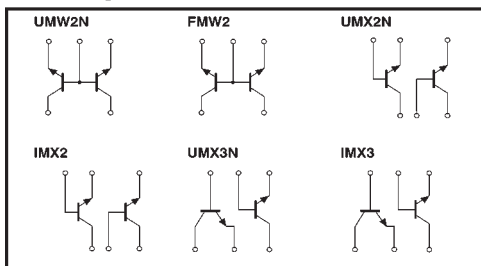
General purpose (dual transistors)

UMW2N / UMX2N / UMX3N / FMW2 / IMX2 / IMX3

●Features

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

●Circuit diagrams



●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	P_C	150 (TOTAL) 300 (TOTAL)	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	7	—	—	V	$I_E = 50 \mu A$
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	$I_C/I_E = 50mA/5mA$
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	C_{ob}	—	2	3.5	pF	$V_{CB} = 12V, I_E = 0mA, f = 1kHz$

* Transition frequency of the device.

(96-427-C022)