

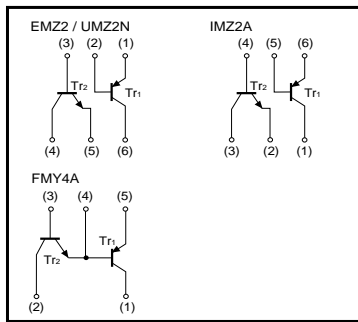
# Power management (dual transistors)

## EMZ2 / UMZ2N / FMY4A / IMZ2A

●Feature

1) Both a 2SA1037AK chip and 2SC2412K chip in a EMT or UMT or SMT package.

●Equivalent circuits



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits		Unit
		Tr1	Tr2	
Collector-base voltage	V <sub>CBO</sub>	-60	60	V
Collector-emitter voltage	V <sub>CEO</sub>	-60	50	V
Emitter-base voltage	V <sub>EB0</sub>	-6	7	V
Collector current	I <sub>c</sub>	-150	150	mA
Collector power dissipation	P <sub>c</sub>	150 (TOTAL)		mW *1
		300 (TOTAL)		
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.	EMZ2	UMZ2N	FMY4A	IMZ2A
Package	EMT6	UMT6	SMT5	SMT6
Marking	Z2	Z2	Y4	Z2
Code	T2R	TR	T148	T108
Basic ordering unit (pieces)	8000	3000	3000	3000

●External dimensions (Units : mm)

**EMZ2**

ROHM : EMT6  
Each lead has same dimensions

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**UMZ2N**

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

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**FMY4A**

ROHM : SMT5  
EIAJ : SC-74A  
Each lead has same dimensions

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**IMZ2A**

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

## Transistors

## ●Electrical characteristics (Ta=25°C)

Tr1

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	-60	-	-	V	I <sub>C</sub> = -50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-50	-	-	V	I <sub>C</sub> = -1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	-6	-	-	V	I <sub>E</sub> = -50μA
Collector cutoff current	I <sub>CB0</sub>	-	-	-0.1	μA	V <sub>CB</sub> = -60V
Emitter cutoff current	I <sub>EB0</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>B</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.

Tr2

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	60	-	-	V	I <sub>C</sub> = 50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	50	-	-	V	I <sub>C</sub> = 1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	7	-	-	V	I <sub>E</sub> = 50μA
Collector cutoff current	I <sub>CB0</sub>	-	-	0.1	μA	V <sub>CB</sub> = 60V
Emitter cutoff current	I <sub>EB0</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>B</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> = 0A, f = 1MHz

\* Transition frequency of the device.

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