

Power management (dual transistors)

UMY4N / UMZ2N / FMY4A / IMZ2A

●Features

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

●Absolute maximum ratings (Ta = 25°C)

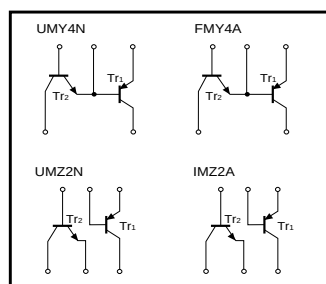
Parameter		Symbol	Limits		Unit	
			Tr1	Tr2		
Collector-base voltage		V _{CB0}	-60	60	V	
Collector-emitter voltage		V _{CE0}	-50	50	V	
Emitter-base voltage		V _{EB0}	-6	7	V	
Collector current		I _c	-150	150	mA	
Collector power dissipation	UMY4N, UMZ2N	P _c	150 (TOTAL)		mW	※1
	FMY4A, IMZ2A		300 (TOTAL)			
Junction temperature		T _j	150		°C	※2
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

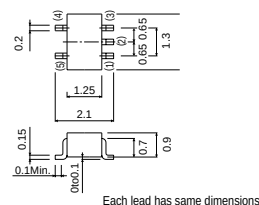
Part No.	UMY4N	UMZ2N	FMY4A	IMZ2A
Package	UMT5	UMT6	SMT5	SMT6
Marking	Y4	Z2	Y4	Z2
Code	TR	TR	T148	T108
Basic ordering unit (pieces)	3000	3000	3000	3000

●Circuit diagrams



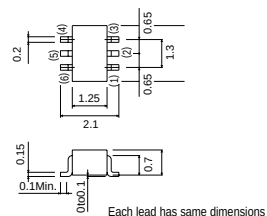
●External dimensions (Units : mm)

UMY4N



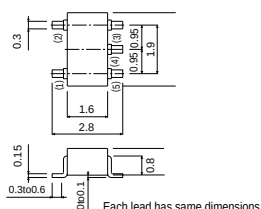
ROHM : UMT5
EIAJ : SC-88A

UMZ2N



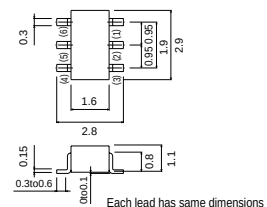
ROHM : UMT6
EIAJ : SC-88

FMY4A



ROHM : SMT5
EIAJ : SC-74A

IMZ2A



ROHM : SMT6
EIAJ : SC-74

UMY4N / UMZ2N / FMY4A / IMZ2A

Transistors

●Electrical characteristics (Ta=25°C)

Tr1

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	-60	—	—	V	I _C = -50μA
Collector-emitter breakdown voltage	BV _{CE0}	-50	—	—	V	I _C = -1mA
Emitter-base breakdown voltage	BV _{EB0}	-6	—	—	V	I _E = -50μA
Collector cutoff current	I _{CB0}	—	—	-0.1	μA	V _{CB} = -60V
Emitter cutoff current	I _{EB0}	—	—	-0.1	μA	V _{EB} = -6V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	-0.5	V	I _C /I _B = -50mA/-5mA
DC current transfer ratio	h _{FE}	120	—	560	—	V _{CE} = -6V , I _C = -1mA
Transition frequency	f _r	—	140	—	MHz	V _{CE} = -12V , I _E = 2mA , f = 100MHz *
Output capacitance	Cob	—	4	5	pF	V _{CB} = -12V , I _E = 0A , f = 1MHz

* Transition frequency of the device.

Tr2

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	60	—	—	V	I _C = 50μA
Collector-emitter breakdown voltage	BV _{CE0}	50	—	—	V	I _C = 1mA
Emitter-base breakdown voltage	BV _{EB0}	7	—	—	V	I _E = 50μA
Collector cutoff current	I _{CB0}	—	—	0.1	μA	V _{CB} = 60V
Emitter cutoff current	I _{EB0}	—	—	0.1	μA	V _{EB} = 7V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	0.4	V	I _C /I _B = 50mA/5mA
DC current transfer ratio	h _{FE}	120	—	560	—	V _{CE} = 6V , I _C = 1mA
Transition frequency	f _r	—	180	—	MHz	V _{CE} = 12V , I _E = -2mA , f = 100MHz *
Output capacitance	Cob	—	2	3.5	pF	V _{CB} = 12V , I _E = 0A , f = 1MHz

* Transition frequency of the device.