

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)

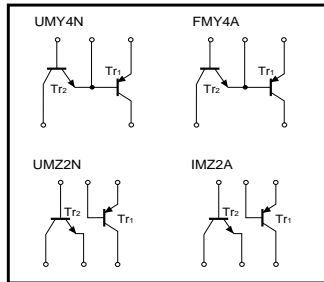
Parameter	Symbol	Limits		Unit
		Tr1	Tr2	
Collector-base voltage	V _{ce0}	-60	60	V
Collector-emitter voltage	V _{ceo}	-50	50	V
Emitter-base voltage	V _{eb0}	-6	7	V
Collector current	I _c	-150	150	mA
Collector power dissipation	UMY4N, UMZ2N	150 (TOTAL)		mW *1
	FMY4A, IMZ2A	300 (TOTAL)		
Junction temperature	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

Each lead has same dimensions

UMZ2N

ROHM : UMT6
EIAJ : SC-88

Each lead has same dimensions

FMY4A

ROHM : SMT5
EIAJ : SC-74A

Each lead has same dimensions

IMZ2A

ROHM : SMT6
EIAJ : SC-74

Each lead has same dimensions

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 _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.

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 _T	-	180	-	MHz	V _{CE} = 12V, I _E = -2mA, f = 100MHz *
Output capacitance	C _{ob}	-	2	3.5	pF	V _{CB} = 12V, I _E = 0A, f = 1MHz

* Transition frequency of the device.