

UMY4N / UMZ2N / FMY4A / IMZ2A

Transistors

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)

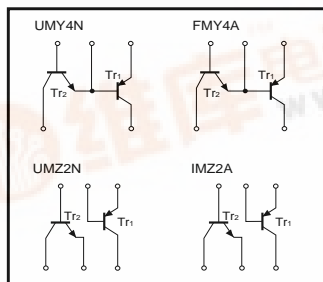
| Parameter | Symbol | Limits | | Unit |
|-----------------------------|------------------|-------------|-----|-------|
| | | Tr1 | Tr2 | |
| Collector-base voltage | V _{ceo} | -60 | 60 | V |
| Collector-emitter voltage | V _{ceo} | -50 | 50 | V |
| Emitter-base voltage | V _{ebo} | -6 | 7 | V |
| Collector current | I _c | -150 | 150 | mA |
| Collector power dissipation | P _c | 150 (TOTAL) | | mW *1 |
| | | 300 (TOTAL) | | |
| 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. | 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.