# Thick Film Resistor Networks, Military, MIL-PRF-83401 Qualified, Type RZ030, Schematics A (11), B (12), J (15) 



## FEATURES

- 11, 12, 15 Schematics; hot-solder dipped
- MIL-PRF-83401 qualified
- Highly stable thick film
- TCR available in "K" ( $\left.\pm 100 \mathrm{ppm} /{ }^{\circ} \mathrm{C}\right)$ or $" \mathrm{M} "\left( \pm 300 \mathrm{ppm} /{ }^{\circ} \mathrm{C}\right)$ characteristic
- $100 \%$ screen tested per Group A, Subgroup 1 of MIL-PRF-83401
- $0.065^{\prime \prime}[1.65 \mathrm{~mm}]$ height for high density packaging


## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | POWER RATING |  | CIRCUIT SCHEMATIC | LIMITING ELEMENT VOLTAGE MAX $\mathrm{V} \cong$ | TEMPERATURE ${ }^{1)}$ COEFFICIENT ppm $/{ }^{\circ} \mathrm{C}$ | STANDARD²) TOLERANCE <br> \% | RESISTANCE RANGE <br> $\Omega$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} P_{70^{\circ}} \mathrm{C} \\ \text { ELEMENT } \\ w \end{gathered}$ | $\begin{gathered} P_{70^{\circ} \mathrm{C}} \\ \text { PACKAGE } \\ \mathrm{w} \end{gathered}$ |  |  |  |  |  |
| DFM | 0.050 | 0.350 | 11 | 50 | "K" = 100 / "M" = 300 | 2 | 10R0-1M0 |
|  | 0.025 | 0.325 | 12 | 50 | "K" = 100 / "M" = 300 | 2 | 10R0-1M0 |
|  | 0.015 | 0.350 | 15 | 50 | "K" = $100 /$ "M" = 300 | 2 | see table |

${ }^{1)}$ Temperature Range: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$
${ }^{2)} \pm 1 \%$ and $\pm 5 \%$ tolerance available

- Consult factory for stocked values


## 11 Schematic



## Derating



15 Schematic



## ORDERING INFORMATION - MILITARY PART NUMBER

| 11 SCHEMATIC 12 SCHEMATIC 15 SCHEMATIC | $\begin{aligned} & \text { M8340103 } \\ & \text { M8340103 } \\ & \text { M8340103 } \end{aligned}$ | $\begin{aligned} & \text { M } \\ & \text { M } \\ & \text { K } \end{aligned}$ | $\begin{aligned} & 6801 \\ & 6801 \\ & \text { A001* } \end{aligned}$ | $\begin{aligned} & \mathrm{G} \\ & \mathbf{G} \\ & \mathbf{G} \end{aligned}$ | $\begin{aligned} & \text { A } \\ & \text { B } \\ & \text { J } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | DETAIL SPEC. NO. | CHARACTERISTIC | RESISTANCE VALUE | TOLERANCE | SCHEMATIC |
|  | $\begin{aligned} \mathrm{M} 8340103= & 14 \text { Pin } \\ & \text { Flat Pack } \\ & \text { RZ030 } \end{aligned}$ | $\begin{aligned} & " \mathrm{~K} "= \pm 100 \mathrm{ppm} /{ }^{\circ} \mathrm{C} \\ & " \mathrm{M} "= \pm 300 \mathrm{ppm} /{ }^{\circ} \mathrm{C} \end{aligned}$ | The first three digits are significant figures and the last digit specifies the number of zeros to follow = 11 and 12 schematics. For 15 schematic see footnote (*). | $\begin{aligned} & F= \pm 1 \% \\ & G= \pm 2 \% \\ & J= \pm 5 \% \end{aligned}$ |  |

EXAMPLE:
M8340103M6801GA = A flat pack resistor network with 14 pins, a TCR of $\pm 300 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$, resistance value of 6.8 k ohm, tolerance of $\pm 2 \%$ and to schematic "A".

EXAMPLE:
M8340103M6801GB = A flat pack resistor network with 14 pins, a TCR of $\pm 300 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$, resistance value of 6.8 k ohm, tolerance of $\pm 2 \%$ and to schematic "B".

EXAMPLE:
M8340103KA001GJ = A flat pack resistor network with 14 pins, a TCR of $\pm 100 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$, R1 resistance value of 82 ohm, R2 resistance value of 130 ohm , tolerance of $\pm 2 \%$ and schematic "J".

DFM14-11, 12, 15 = Type G (hot-solder dipped).
Hot-solder dipped leads supplied as standard finish.

* The J-schematic resistance values are specified by a 4-digit code, which comes from MIL-PRF-83401. The codes and corresponding resistance values are:

| CODE | R1 (Ohms) | R2 (Ohms) | CODE | R1 (Ohms) | R2 (Ohms) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A001 | 82 | 130 | A010 | 330 | 470 |
| A002 | 120 | 200 | A011 | 330 | 680 |
| A003 | 130 | 210 | A012 | 1.5 k | 3.3 k |
| A004 | 160 | 260 | A013 | 3 k | 6.2 k |
| A005 | 180 | 240 | A014 | 180 | 270 |
| A006 | 180 | 390 | A015 | 270 | 270 |
| A007 | 220 | 270 | A016 | 560 | 560 |
| A008 | 220 | 330 | A017 | 560 | 1.2 k |
| A009 | 330 | 390 | A018 | 620 | 2.7 k |

## CIRCUIT APPLICATIONS

11 Schematic


DFM14-11 (M8340103xxxxxxA)
7 isolated resistors
The DFM14-11 provides the user with 7 nominally equal resistors with each resistor isolated from all others. Commonly used in the following applications:

- "Wired OR" Pull-up
- Line Termination
- LED Current Limiting
- Power Driven Pull-up
- ECL Output Pull-down
- Power Gate Pull-up
- TTL Input Pull-down
- Long-line Impedance balancing


## 12 Schematic



DFM14-12 (M8340103xxxxxxB)
13 resistors with one pin common
The DFM14-12 provides the user with a choice of 13 nominally equal resistors, each connected to a common pin. Commonly used in the following applications:

- MOS/ROM Pull-up/ • "Wired OR" Pull-up • Digital Pulse Squaring
- Pull-down • Power Driven Pull-up
- Open Collector Pull-up •TTL Unused Gate Pull-up
- TTL Input Pull-down
- High Speed Parallel Pull-up


## 15 Schematic



DFM14-15

DFM14-15 (M8340103xxxxxxJ)
12 pairs of resistors
The DFM14-15 provides the user with a choice of 12 pairs of R1/R2 resistor values for pulse squaring and TTL dual-line terminating requirements.

## MECHANICAL SPECIFICATIONS

| Marking Resistance to Solvents | Permanency testing per MIL-PRF-83401 |
| :--- | :---: |
| Solderability | Per MIL-PRF-83401. |
| Terminals | Per MIL-STD-1276 |
|  | DFM14-11, 12, $15=$ Type G (hot solder dipped) |
| Hot solder dipped leads supplied |  |
| as standard finish. |  |


| PERFORMANCE |  | CoNDITIONS |
| :--- | :--- | :--- |$|$| MAX. $\Delta R$ (Typical Test Lots) |
| :--- |
| TEST |

