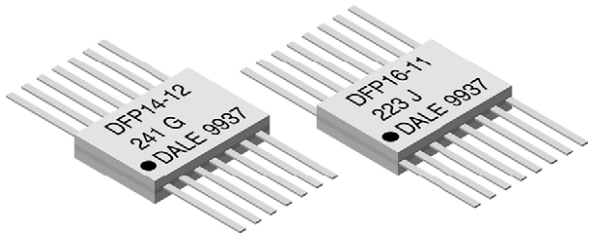
Thick Film Resistor Networks, Flat Pack



FEATURES

- Isolated and bussed schematics available
- 0.065" (1.65 mm) height for high density packaging
- Low temperature coefficient (-55 °C to +125 °C) ± 100 ppm/°C
- Hot solder dipped leads
- Highly stable thick film
- Wide resistance range
- All devices are capable of passing the MIL-STD-202, method 210, condition C “Resistance to Soldering Heat” test

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING ELEMENT $P_{25\,°C}$ W	POWER RATING PACKAGE $P_{25\,°C}$ W	CIRCUIT SCHEMATIC	MAXIMUM WORKING VOLTAGE (3) V_{DC}	TEMPERATURE COEFFICIENT (1) ± ppm/°C	TOLERANCE (2) ± %	RESISTANCE RANGE Ω	TCR TRACKING ± ppm/°C
DFP	0.25	0.65	11	75	100	1, 2, 5	10 to 1M	50
	0.15	0.65	12	75	100	1, 2, 5	10 to 1M	50

Notes

- Consult factory for stocked values

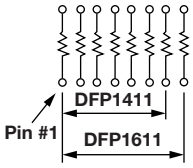
(1) Temperature range: -55 °C to +125 °C

(2) ± 2 % standard, ± 1 % and ± 5 % available

(3) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less

TECHNICAL SPECIFICATIONS

11 Schematic

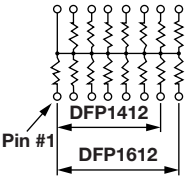


7 or 8 isolated resistors

The DFPxx11 provides the user with 7 or 8 nominally equal resistors with each resistor isolated from all others. Commonly used in the following applications:

- “Wired OR” pull-up
- Power driven pull-up
- Power gate pull-up
- Line termination
- Long-line impedance balancing
- LED current limiting
- ECL output pull-down
- TTL input pull-down

12 Schematic



13 or 15 resistors with one pin common

The DFPxx12 provides the user with a choice of 13 or 15 nominally equal resistors, each connected to a common pin (14 or 16). Commonly used in the following applications:

- MOS/ROM pull-up/pull-down
- Open collector pull-up
- “Wired OR” pull-up
- Power driven pull-up
- TTL input pull-down
- Digital pulse squaring
- TTL unused gate pull-up
- High speed parallel pull-up

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: DFP14121K00GT05 (preferred part number information)

D	F	P	1	4	1	2	1	K	0	0	G	T	0	5			

GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
DFP	**14** **16**	**11** = isolated **12** = bussed	**R** = Ω **K** = kΩ **M** = MΩ **10R0** = 10Ω **680K** = 680 kΩ **1M00** = 1.0 MΩ	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 %	**T05** = tray pack	Blank = standard (dash number) (up to 3 digits) from **1 to 999** as applicable

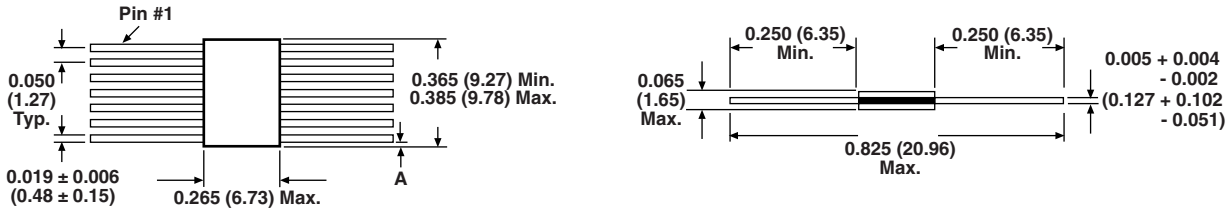
Historical Part Number Example: DFP1412102G (will continue to be accepted)

DFP	14	12	102	G	T05
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

Note

- For additional information on packaging, refer to the Surface Mount Network Packaging document (www.vishay.com/doc?31540)

DIMENSIONS in inches (millimeters)

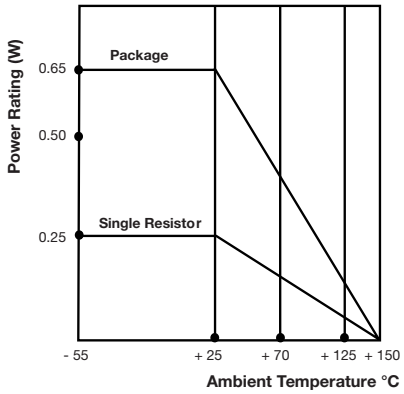


GLOBAL MODEL	DIMENSION A
DFP14	0.037 ± 0.010 (0.94 ± 0.25)
DFP16	0.012 ± 0.010 (0.30 ± 0.25)

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	DFP14 / DFP16
Isolation resistance 11 schematic	MΩ	> 100
Voltage coefficient of resistance	ppm/V	< 50 typical
Maximum operating voltage	V_{DC}	75
Operating temperature range	°C	-55 to +125
Storage temperature range	°C	-55 to +150

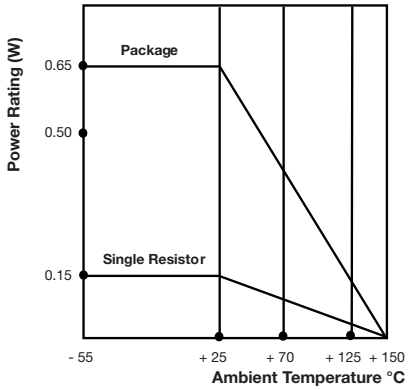
MECHANICAL SPECIFICATIONS	
Marking	Model number, schematic number, value tolerance, pin 1 indicator, date code
Marking resistance to solvents	Permanency testing per MIL-STD-202, method 215
Solderability	Per MIL-STD-202, method 208E
Terminals	Per MIL-STD-1276 DFPxx11, DFPxx12 = type G (hot solder dipped). Hot solder dipped leads supplied as standard finish.
Body	Epoxy filled ceramic sandwich

11 Schematic



Derating

12 Schematic



Derating

PERFORMANCE		
TEST	CONDITIONS	MAX. ΔR (TYPICAL TEST LOTS)
Power conditioning	1.5 x rated power, applied 1.5 h "ON" and 0.5 h "OFF" for 100 h ± 4 h at +25 °C ambient temperature	± 0.50 % Δ*R*
Thermal shock	5 cycles between -65 °C and +125 °C	± 0.50 % Δ*R*
Short time overload	2.5 x rated working voltage, 5 s	± 0.25 % Δ*R*
Low temperature operation	45 min at full rated working voltage at -65 °C	± 0.25 % Δ*R*
Moisture resistance	240 h with humidity ranging from 80 % RH to 98 % RH	± 0.50 % Δ*R*
Resistance to soldering heat	Leads immersed in +260° ΔC solder to within 1/16" of body for 10 s	± 0.25 % Δ*R*
Shock	Total of 18 shocks at 100 *g*'s	± 0.25 % Δ*R*
Vibration	12 h at maximum of 20 *g*'s between 10 Hz and 2000 Hz	± 0.25 % Δ*R*
Load life	1000 h at +70 °C, rated power applied 1.5 h "ON", 0.5 h "OFF" for full 1000 h period. Derated according to the curve.	± 0.50 % Δ*R*
Terminal strength	1.5 pound pull for 30 s	± 0.25 % Δ*R*
Insulation resistance	10 000 MΩ (minimum)	-
Dielectric withstanding voltage	No evidence of arcing or damage (200 V_{RMS} for 1 min)	-

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