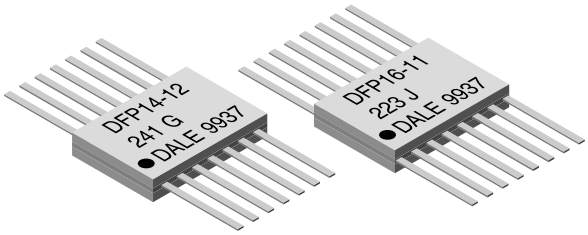
Thick Film Resistor Networks
Flat Pack, 11, 12 Schematics



FEATURES

- 11 and 12 Schematics
- 0.065" [1.65mm] height for high density packaging
- Low temperature coefficient (- 55°C to + 125°C) ± 100ppm/°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 $P_{25°C}$ ELEMENT W	POWER RATING $P_{25°C}$ PACKAGE W	CIRCUIT SCHEMATIC	LIMITING ELEMENT VOLTAGE MAX. V≅	TEMPERATURE[1] COEFFICIENT ppm/°C	STANDARD[2] TOLERANCE %	RESISTANCE RANGE Ω	TEMPERATURE COEFFICIENT TRACKING ppm/°C
DFP	0.25	0.65	11	75	± 100	2	10 - 1M	50
	0.15	0.65	12	75	± 100	2	10 - 1M	50

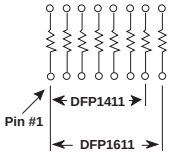
[1] Temperature Range: - 55°C to + 125°C

[2] ± 1% and ± 5% tolerance available

• Consult factory for stocked values

TECHNICAL SPECIFICATIONS

11 Schematic

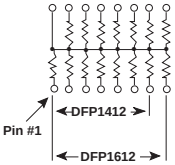


7 or 8 isolated resistors

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: DFP14121K00GD05 (preferred part numbering format)

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

GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
DFP	**14** **16**	**11** = Isolated **12** = Bussed	**R** = Decimal **K** = Thousand **M** = Million **10R0** = 10Ω **680K** = 680KΩ **1M00** = 1.0MΩ	**F** = ± 1% **G** = ± 2% **J** = ± 5%	**E05** = Lead Free, Tube **D05** = Tin/Lead, Tube	Blank = Standard (Dash Number) (up to 3 digits) From **1-999** as applicable

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

DFP	14	12	102	G	D05
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

For technical questions contact: ff2aresistors@vishay.com

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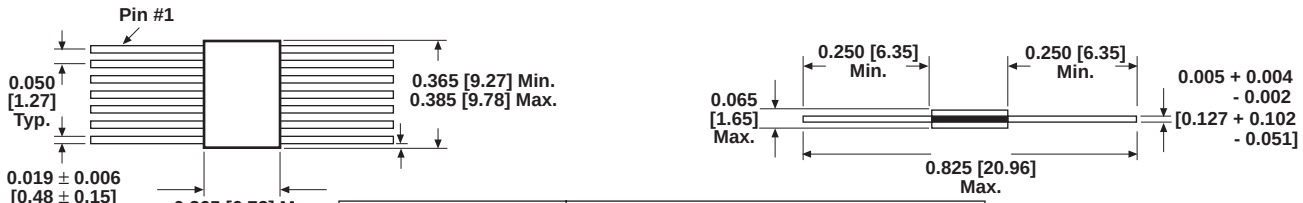
DIMENSIONS in inches [millimeters]



GLOBAL MODEL	DIMENSION A
DFP14	0.037 ± 0.010 [0.94 ± 0.25]
DFP16	0.012 ± 0.010 [0.30 ± 0.25]

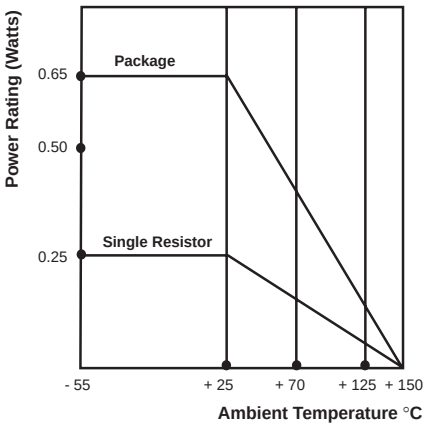
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	DFP14 / 16
Isolation Resistance 11 Schematic	MΩ	> 100
Voltage Coefficient of Resistance:	ppm/V	< 50 typical
Maximum Operating Voltage:	VDC	75
Operating Temperature Range:	°C	- 55 to + 125
Storage Temperature Range:	°C	- 55 to + 150

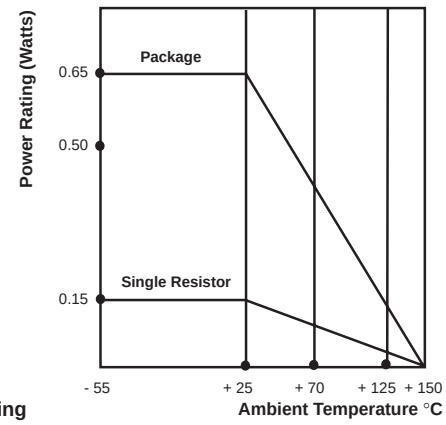
MECHANICAL SPECIFICATIONS

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



12 Schematic



PERFORMANCE

TEST	CONDITIONS	MAX. ΔR (Typical Test Lots)
Power Conditioning	1.5 x rated power, applied 1.5 hours “ON” and 0.5 hour “OFF” for 100 hours ± 4 hours at + 25°C ambient temperature	± 0.50% ΔR
Thermal Shock	5 cycles between - 65°C and + 125°C	± 0.50% ΔR
Short Time Overload	2.5 x rated working voltage, 5 seconds	± 0.25% ΔR
Low Temperature Operation	45 minutes at full rated working voltage at - 65°C	± 0.25% ΔR
Moisture Resistance	240 hours with humidity ranging from 80% RH to 98% RH	± 0.50% ΔR
Resistance to Soldering Heat	Leads immersed in + 260°ΔC solder to within 1/16" of body for 10 seconds	± 0.25% ΔR
Shock	Total of 18 shocks at 100 G's	± 0.25% ΔR
Vibration	12 hours at maximum of 20 G's between 10 and 2,000 Hz	± 0.25% ΔR
Load Life	1000 hours at + 70°C, rated power applied 1.5 hours “ON”, 0.5 hour “OFF” for full 1000 hour period. Derated according to the curve.	± 0.50% ΔR
Terminal Strength	1.5 pound pull for 30 seconds	± 0.25% ΔR
Insulation Resistance	10,000 Megohm (minimum)	-
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 V RMS for 1 minute)	-