



Multilayer Diplexer

For 698-2690MHz / 3400-5850MHz

DPX165850DT-8086A1

1.6x0.8mm [EIA 0603]*

* Dimensions Code JIS[EIA]

Conformity to RoHS Directive

DPX165850DT-8086A1

[Top view]

Dimensions: 1.60 ± 0.10 (total width), 0.80 ± 0.10 (total height), 0.65 max. (width of marking area).

Marking: A black square is located in the top-left corner of the rectangle.

[Bottom view]

Dimensions: 0.22 ± 0.05 (width of marking area), 0.225 ± 0.05 (height of marking area), 0.35 ± 0.05 (width of marking area).

Marking: Six gray squares are arranged in a 2x3 grid in the center of the rectangle.

Dimensions in mm

Terminal functions	
1	GND
2	Common Port
3	GND
4	High-Band Port
5	GND
6	Low-Band Port

0.35

0.225

0.22

0.22

0.22

Dimensions in mm

○ Thru Hole
 ■ Resist
 ■ Surface Pattern

0.2
 0.976
 0.61
 0.978
 Dimensions in mm

Material, Layer	Thickness
Top resist	Resist
Copper Surface Pattern	0.035mm
FR-4	0.10mm
Copper Inner GND	0.018mm
FR-4	0.30mm
Copper Bottom GND	0.035mm

Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

○ RoHS Directive Compliant Product: See the following for more details.<https://product.tdk.com/info/en/environment/rohs/index.html>

- All specifications are subject to change without notice.
- Before using these products, be sure to request the delivery specifications.

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ELECTRICAL CHARACTERISTICS

LOW-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	698 to 2690	—	0.66	0.80
	698 to 2690	—	—	0.91 (−40 to +85°C)
Return Loss (dB)	698 to 2690	9.54	18.2	—
Attenuation (dB)	3400 to 3800	13	16.4	—
	5150 to 5850	20	23.8	—
Power Handling (W)	—	—	—	2.0
Characteristic Impedance (Ω)	—	—	50 (Nominal)	—

· Ta: +25±5°C

HIGH-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	3400 to 3800	—	0.77	0.89
	5150 to 5850	—	0.45	0.54
	3400 to 3800	—	—	0.96 (−40 to +85°C)
	5150 to 5850	—	—	0.64 (−40 to +85°C)
Return Loss (dB)	3400 to 3800	9.54	19.4	—
	5150 to 5850	9.54	21.2	—
Attenuation (dB)	698 to 2690	14	16.6	—
	10300 to 11700	18	23.4	—
Power Handling (W)	—	—	—	2.0
Characteristic Impedance (Ω)	—	—	50 (Nominal)	—

· Ta: +25±5°C

COMMON

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Isolation (dB)	698 to 2690	14	15.8	—
	3400 to 3800	13	16.6	—
	5150 to 5850	20	23.6	—
Return Loss (dB)	698 to 2690	9.54	16.8	—
	3400 to 3800	9.54	20.1	—
	5150 to 5850	9.54	22.1	—
Characteristic Impedance (Ω)	—	—	50 (Nominal)	—

· Ta: +25±5°C

TEMPERATURE RANGE

Operating temperature (°C)	Storage temperature (°C)
−40 to +85	−40 to +85

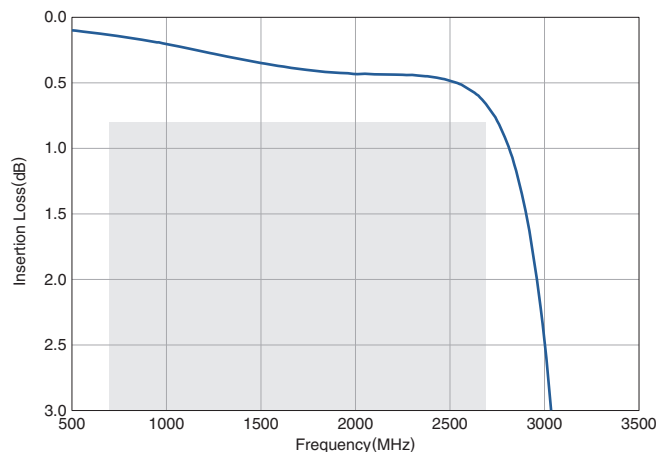
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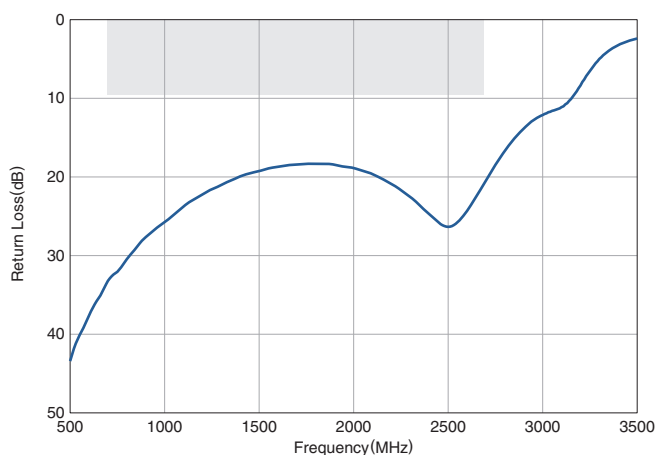
FREQUENCY CHARACTERISTICS

LOW-BAND

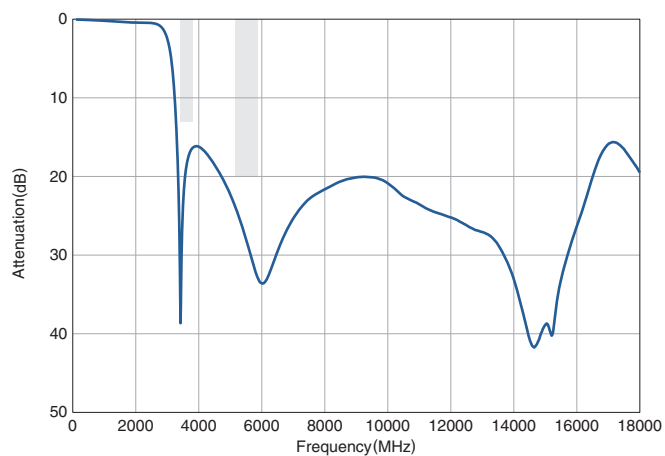
Insertion Loss



Return Loss

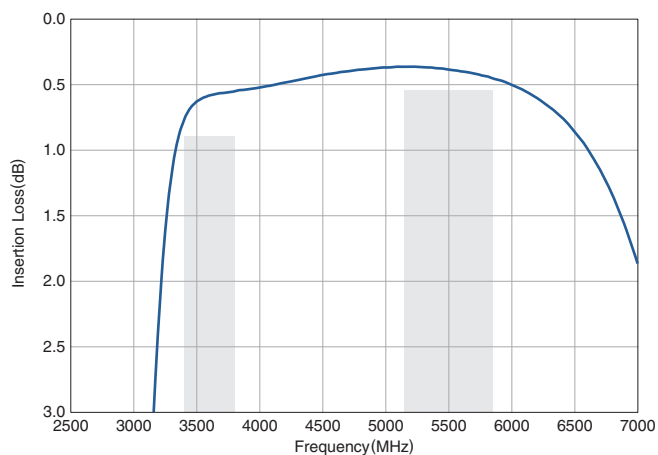


Attenuation

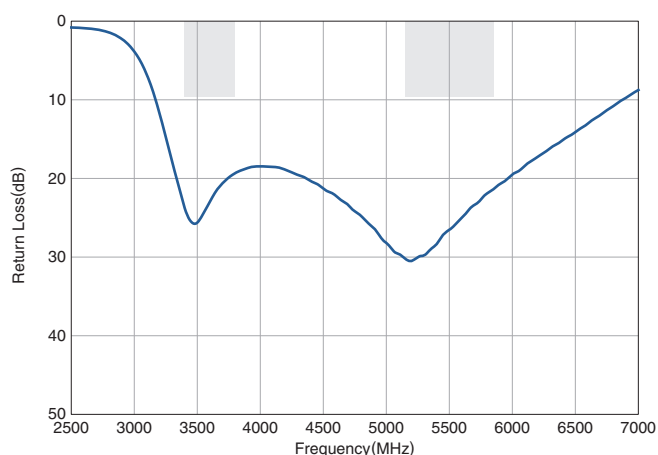


HIGH-BAND

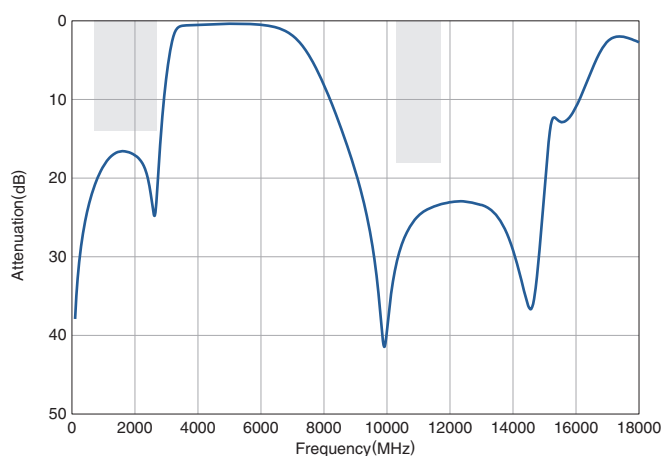
Insertion Loss



Return Loss



Attenuation



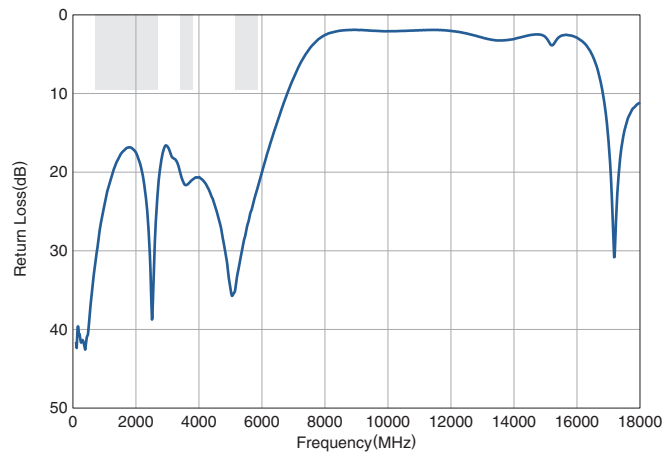
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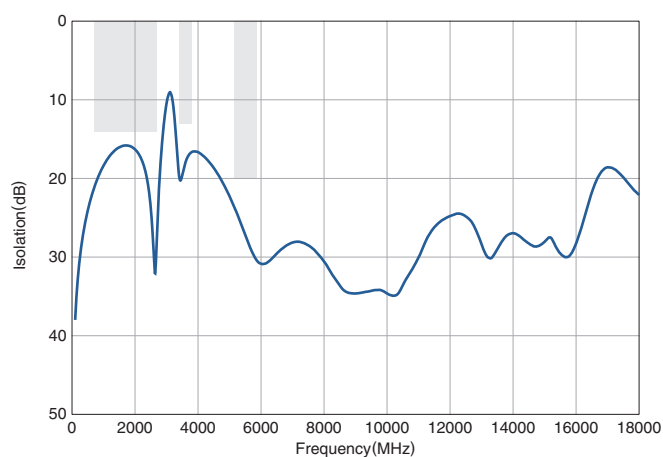
FREQUENCY CHARACTERISTICS

COMMON

Return Loss



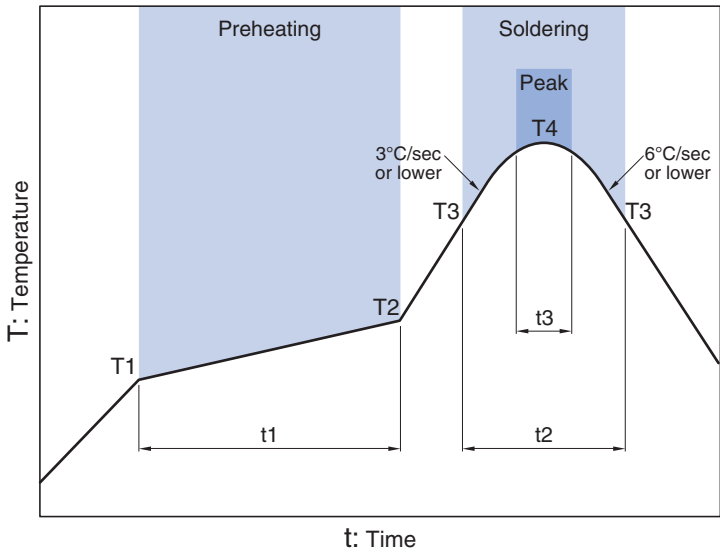
Isolation



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RECOMMENDED REFLOW PROFILE



Preheating			Soldering			
Temp.			Critical zone (T3 to T4)		Peak	
T1	T2	Time	Temp.	Time	Temp.	Time
150°C	200°C	t1	T3	t2	T4	t3*
150°C	200°C	60 to 120sec	217°C	60 to 120sec	240 to 260°C	30sec max.

* t3 : Time within 5°C of actual peak temperature
The maximum number of reflow is 3.

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REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

REMINDERS

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this catalog.

- | | |
|---|--|
| (1) Aerospace/Aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.