

## Phase Shifter

### 1. Electrical Characteristics (at -40 ~ +85 °C)

Part Number	LFP152G5E090F123TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.48 dB max. at +25 °C 0.53 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	13.0 dB min. at 200.00 ~ 400.00 MHz
Phase Shift in BW	94.5 ± 5.5 ° at 2400.00 MHz 90.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5E075F124TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.45 dB max. at +25 °C 0.50 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	11.0 dB min. at 200.00 ~ 400.00 MHz
Phase Shift in BW	79.0 ± 5.5 ° at 2400.00 MHz 75.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5E060F125TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.45 dB max. at +25 °C 0.50 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	6.0 dB min. at 200.00 ~ 400.00 MHz
Phase Shift in BW	63.5 ± 5.0 ° at 2400.00 MHz 60.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5E045F126TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.40 dB max. at +25 °C 0.45 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	4.0 dB min. at 200.00 ~ 400.00 MHz
Phase Shift in BW	48.0 ± 5.0 ° at 2400.00 MHz 45.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5E030F127TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.38 dB max. at +25 °C 0.43 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	3.0 dB min. at 200.00 ~ 400.00 MHz
Phase Shift in BW	32.5 ± 5.0 ° at 2400.00 MHz 30.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5E015F128TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.35 dB max. at +25 °C 0.40 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Phase Shift in BW	17.0 ± 5.0 ° at 2400.00 MHz 15.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F015F129TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.22 dB max. at +25 °C 0.27 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Phase Shift in BW	-14.5 ± 5.0 ° at 2400.00 MHz -15.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F030F130TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.25 dB max. at +25 °C 0.30 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Phase Shift in BW	-29.0 ± 5.0 ° at 2400.00 MHz -30.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F045F131TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.25 dB max. at +25 °C 0.30 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Phase Shift in BW	-43.0 ± 5.0 ° at 2400.00 MHz -45.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F060F132TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.35 dB max. at +25 °C 0.40 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	2.0 dB min. at 7200.00 ~ 7500.00 MHz
Phase Shift in BW	-57.0 ± 5.0 ° at 2400.00 MHz -60.0 ± 5.0 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F075F133TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.38 dB max. at +25 °C 0.43 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	4.0 dB min. at 7200.00 ~ 7500.00 MHz
Phase Shift in BW	-71.0 ± 5.5 ° at 2400.00 MHz -75.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

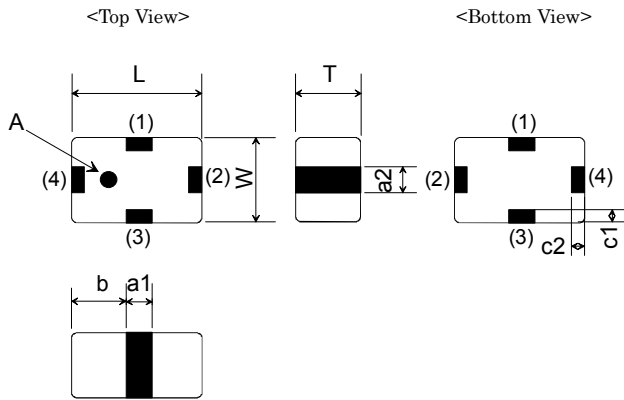
Part Number	LFP152G5F090F134TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.42 dB max. at +25 °C 0.47 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	13.0 dB min. at 7200.00 ~ 7500.00 MHz
Phase Shift in BW	-86.0 ± 5.5 ° at 2400.00 MHz -90.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F105F135TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.55 dB max. at +25 °C 0.65 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	12.0 dB min. at 7200.00 ~ 7500.00 MHz
Phase Shift in BW	-100.0 ± 5.5 ° at 2400.00 MHz -105.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

Part Number	LFP152G5F120F136TEMP
Nominal Characteristics Impedance	50 Ω
Band Pass Range	2450.00 ± 50.00 MHz
Insertion Loss in BW	0.55 dB max. at +25 °C 0.65 dB max. at -40 ~ +85 °C
V.S.W.R. in BW	1.60 max.
Attenuation (Absolute value)	14.0 dB min. at 7200.00 ~ 7500.00 MHz
Phase Shift in BW	-114.5 ± 5.5 ° at 2400.00 MHz -120.0 ± 5.5 ° at 2500.00 MHz
Power Capacity	3 W

**2. Construction, Dimensions & Marking**

**3. Land Pattern**



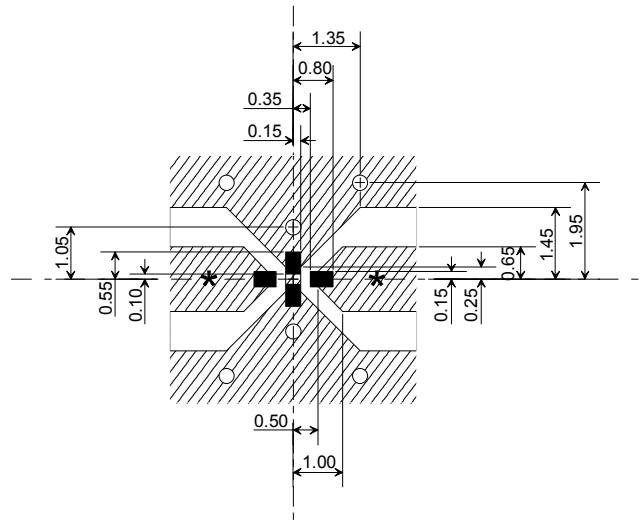
(in mm)

Mark	Meaning
A	Directional Input Mark

Mark	Dimension	Mark	Dimension
L	1.00 ± 0.05	a2	0.3 ± 0.1
W	0.50 ± 0.05	b	0.35 ± 0.10
T	0.40 max.	c1	0.10 ± 0.05
a1	0.3 ± 0.1	c2	0.10 ± 0.05

**TERMINAL CONFIGURATION**

Terminal No.	Terminal Name	Terminal No.	Terminal Name
(1)	GND	(3)	GND
(2)	OUT	(4)	IN



(in mm)

- Land
- Solder resist
- No pattern Solder resist
- Through Hole  $\phi$  0.30

\* Line width to be designed to match 50 ohm characteristic impedance, Depending on PCB material and thickness.



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