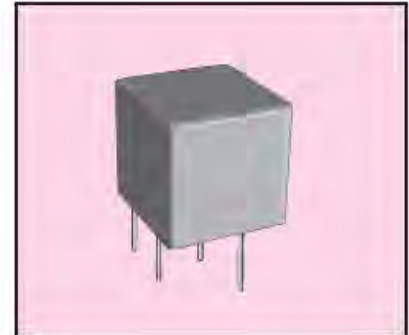


FEATURES

- * Ultra small size
- * 6.5 mm profile
- * Bandwidths from 4KHz to 30KHz available
- * High selectivity
- * 4 elements

Ultra small size high selectivity type ceramic filter for communication use.



OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PART NUMBER	CENTER FREQUENCY (KHz)	INSERTION LOSS (dB) MAX.	PASS BAND RIPPLE (dB) MAX.	6 dB BANDWIDTH (KHz) MIN.	40 dB BANDWIDTH (dB) MAX.	STOP BAND ATT. ±100KHZ (dB) MIN.	INPUT / OUTPUT IMPEDANCE (Ω)
LTM450BU	450 ±2.0	4	2	±15	±30	±27	1500
LTM450CU	450 ±2.0	4	2	±12.5	±24	±27	1500
LTM450DU	450 ±1.5	4	2	±10	±20	±27	1500
LTM450EU	450 ±1.5	6	2	±7.5	±15	±27	1500
LTM450FU	450 ±1.5	6	2	±6	±12.5	±27	2000
LTM450GU	450 ±1.0	6	2	±4.5	±10	±25	2000
LTM450HU	450 ±1.0	6	2	±3	±9	±25	2000
LTM450IU	450 ±1.0	6	2	±2	±7.5	±25	2000
LTM450HTU	450 ±1.0	6	2	±3	±9	±35	2000
LTM450ITU	450 ±1.0	6	2	±2	±7.5	±35	2000

PACKAGE DIMENSIONS (mm)

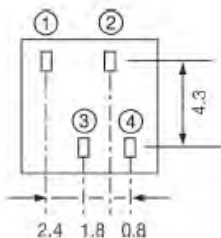
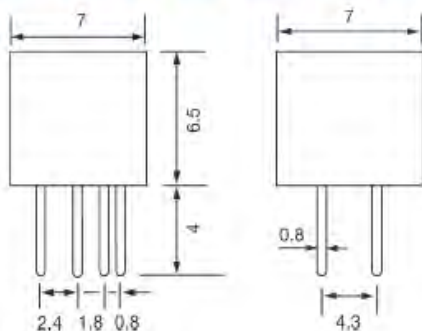


Figure 1) LTM450U -Front, Side and Bottom views

Note: To avoid potential problems, connect the output to an IF amplifier through a DC cut capacitor. Avoid applying a direct current to output end of the ceramic filters (between ③ and ①②).

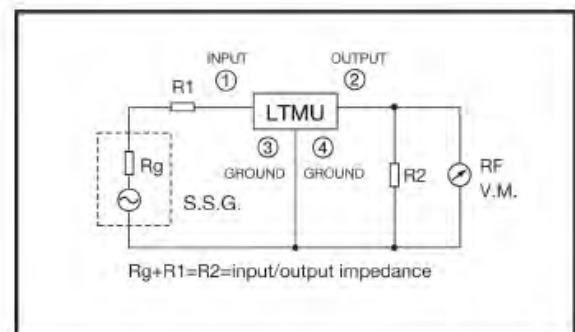


Figure 2) LTM450U - Measuring Circuit

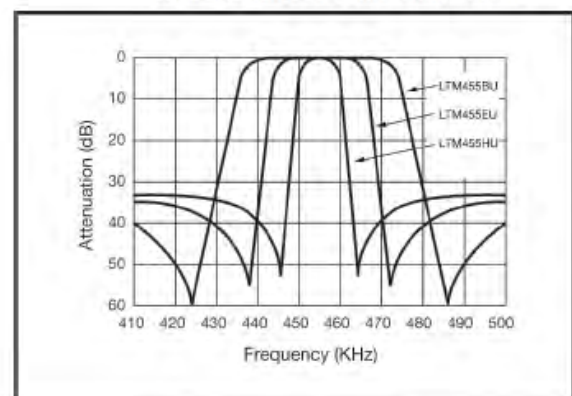


Figure 3) LTM4550U - Characteristics

FEATURES

- * Ultra small size
- * 6.3 mm profile
- * Broad bandwidth
- * High selectivity
- * 6 elements

Ultra small size high selectivity type ceramic filter for communication use.



OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PART NUMBER	CENTER FREQUENCY (KHz)	INSERTION LOSS (dB) MAX.	PASS BAND RIPPLE (dB) MAX.	6 dB BANDWIDTH (KHz) MIN.	50 dB BANDWIDTH (dB) MAX.	STOP BAND ATT. ±100KHZ (dB) MIN.	INPUT / OUTPUT IMPEDANCE (Ω)
LTM450BW	450 ±2.0	4	2	±15	±30	45	1500
LTM450CW	450 ±2.0	4	2	±12.5	±24	45	1500
LTM450DW	450 ±1.5	4	2	±10	±20	45	1500
LTM450EW	450 ±1.5	6	2	±7.5	±15	45	1500
LTM450FW	450 ±1.5	6	2	±6	±12.5	45	2000
LTM450GW	450 ±1.5	6	2	±4.5	±10	45	2000
LTM450HW	450 ±1.0	6	2	±3	±9	55	2000
LTM450IW	450 ±1.0	6	2	±2	±7.5	55	2000
LTM450HTW	450 ±1.0	6	2	±3	±9	60	2000
LTM450ITW	450 ±1.0	6	2	±2	±7.5	60	2000

PACKAGE DIMENSIONS (mm)

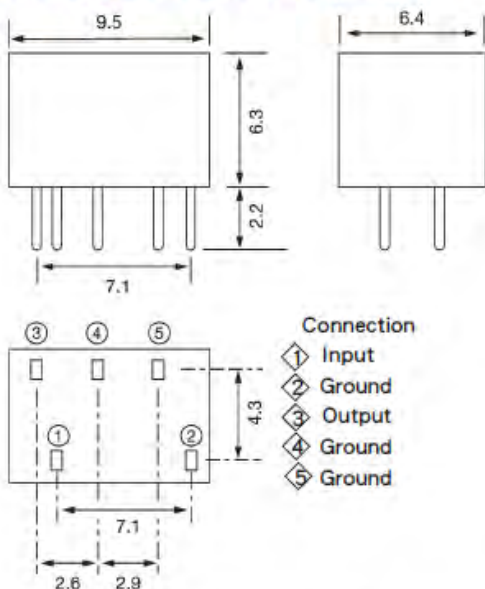


Figure 1) LTM450W Front, Side and Bottom views

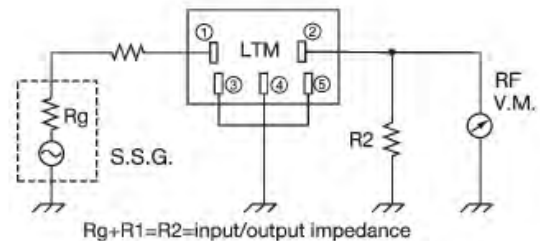


Figure 2) LTM450W - Measuring Circuit

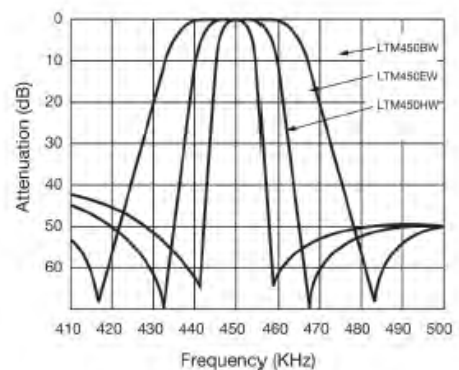


Figure 3) LTM450W Characteristics

Note: To avoid potential problems, connect the output to an IF amplifier through a DC cut capacitor.

Avoid applying a direct current to output end of the ceramic filters (between ⑤ and ②③④).

FEATURES

- * Ultra small size
- * 6.5 mm profile
- * Bandwidths from 4KHz to 30KHz available
- * High selectivity
- * 4 elements

Ultra small size high selectivity type ceramic filter for communication use.



OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PART NUMBER	CENTER FREQUENCY (KHz)	INSERTION LOSS (dB) MAX.	PASS BAND RIPPLE (dB) MAX.	6 dB BANDWIDTH (KHz) MIN.	40 dB BANDWIDTH (dB) MAX.	STOP BAND ATT. ±100KHZ (dB) MIN.	INPUT / OUTPUT IMPEDANCE (Ω)
LTM450BU	450 ±2.0	4	2	±15	±30	27	1500
LTM450CU	450 ±2.0	4	2	±12.5	±24	27	1500
LTM450DU	450 ±1.5	4	2	±10	±20	27	1500
LTM450EU	450 ±1.5	6	2	±7.5	±15	27	1500
LTM450FU	450 ±1.5	6	2	±6	±12.5	27	2000
LTM450GU	450 ±1.0	6	2	±4.5	±10	25	2000
LTM450HU	450 ±1.0	6	2	±3	±9	25	2000
LTM450IU	450 ±1.0	6	2	±2	±7.5	25	2000
LTM450HTU	450 ±1.0	6	2	±3	±9	35	2000
LTM450ITU	450 ±1.0	6	2	±2	±7.5	35	2000

PACKAGE DIMENSIONS (mm)

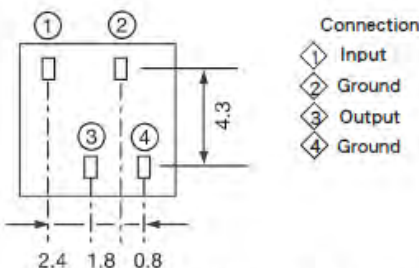
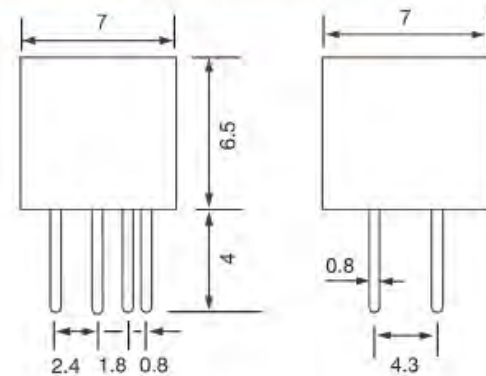


Figure 1) LTM455U - Front, Side and Bottom views

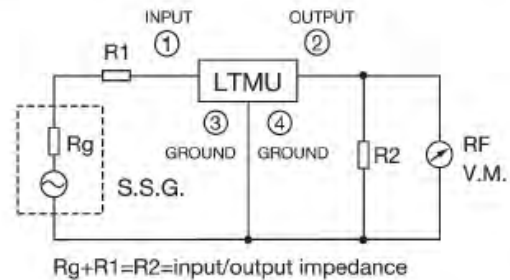


Figure 2) LTM455U -Measuring Circuit

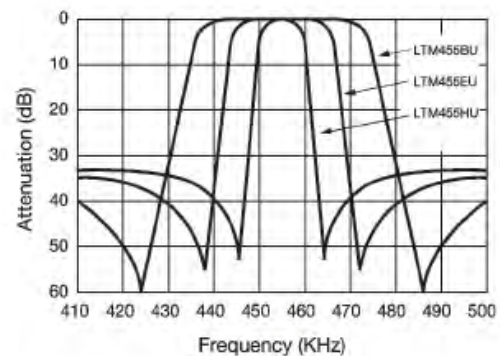


Figure 3) LTM455U -Characteristics

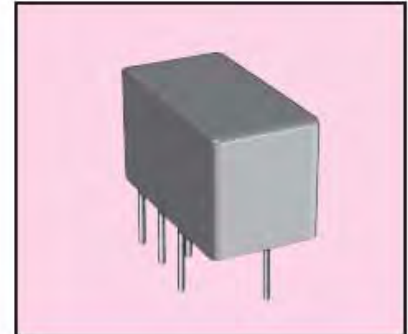
Note: To avoid potential problems, connect the output to an IF amplifier through a DC cut capacitor.

Avoid applying a direct current to output end of the ceramic filters (between ③ and ① ②).

FEATURES

- * Ultra small size
- * 6.3 mm profile
- * Broad bandwidth
- * High selectivity
- * 6 elements

Ultra small size high selectivity type ceramic filter for communication use.



OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PART NUMBER	CENTER FREQUENCY (KHz)	INSERTION LOSS (dB) MAX.	PASS BAND RIPPLE (dB) MAX.	6 dB BANDWIDTH (KHz) MIN.	50 dB BANDWIDTH (dB) MAX.	STOP BAND ATT. ±100KHZ (dB) MIN.	INPUT / OUTPUT IMPEDANCE (Ω)
LTM455BW	455 ±2.0	4	2	±15	±30	45	1500
LTM455CW	455 ±2.0	4	2	±12.5	±24	45	1500
LTM455DW	455 ±1.5	4	2	±10	±20	45	1500
LTM455EW	455 ±1.5	6	2	±7.5	±15	45	1500
LTM455FW	455 ±1.5	6	2	±6	±12.5	45	2000
LTM455GW	455 ±1.5	6	2	±4.5	±10	45	2000
LTM455HW	455 ±1.0	6	2	±3	±9	45	2000
LTM455IW	455 ±1.0	6	2	±2	±7.5	45	2000
LTM455HTW	455 ±1.0	6	2	±3	±9	60	2000
LTM455ITW	455 ±1.0	6	2	±2	±7.5	60	2000

PACKAGE DIMENSIONS (mm)

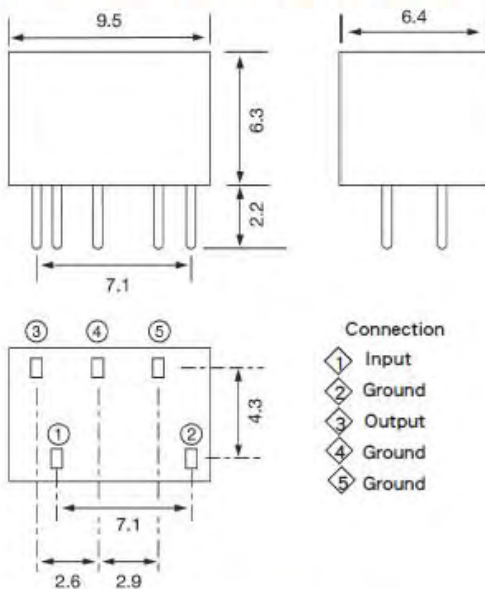


Figure 1) LTM455W Front, Side and Bottom views

Note: To avoid potential problems, connect the output to an IF amplifier through a DC cut capacitor.

Avoid applying a direct current to output end of the ceramic filters (between ⑤ and ②③④).

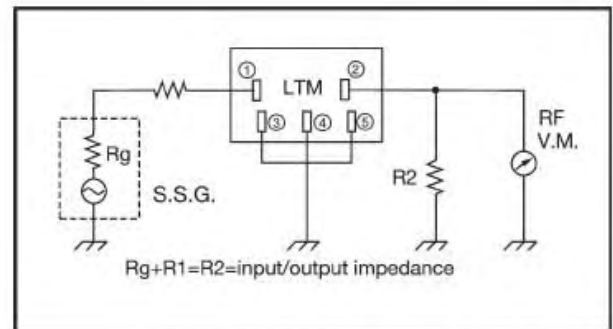


Figure 2) LTM455W - Measuring Circuit

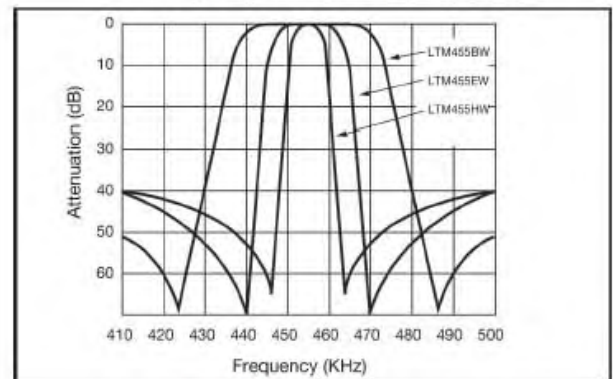
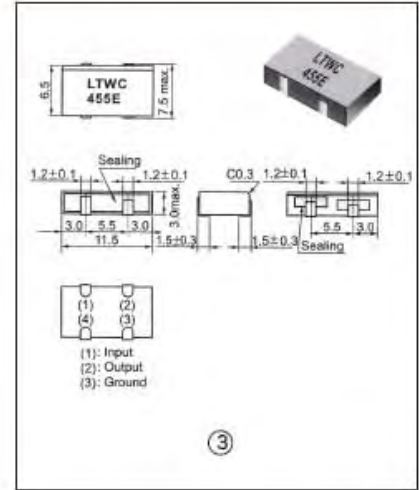
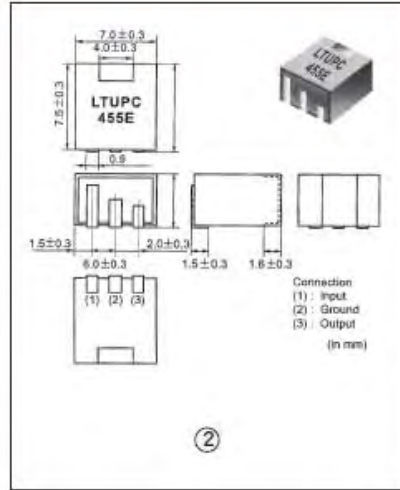
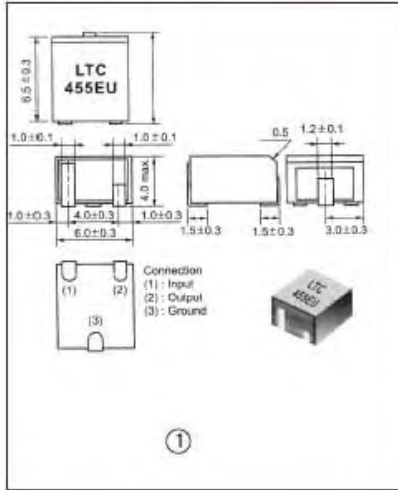


Figure 3) LTM455W - Characteristics



TECHNICAL CHARACTERISTICS

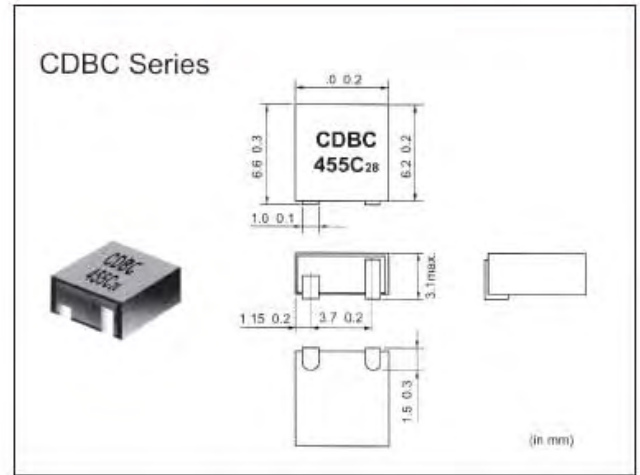
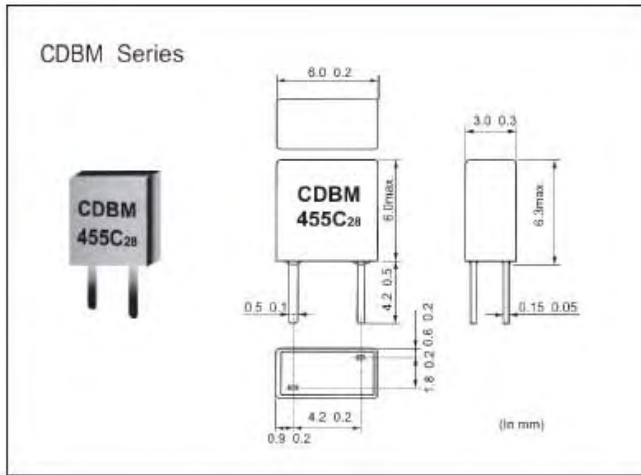
①	Model	Center Frequency (Center of 6dB B.W(kHz)min)	6dB BandWidth (kHz)max	40dB Band Width (kHz)max	Stop Band Attenuation 455±100KHz (dB)min	Insertion Loss at Minimum Loss pion (dB)max	Ripple (dB)max	Input/Output Impedance(Ω)
	LTC455DU	455±1.5	±10	±20	27	4	(±7KHz)2.0	1500
LTC455EU	455±1.5	±1.5	±15	27	6	(±5KHz)2.0	1500	
LTC455FU	455±1.5	±6.0	±12.5	27	6	(±4KHz)2.0	1500	
LTC455GU	455±1.5	±4.5	±10	27	6	(±3KHz)2.0	1500	

TECHNICAL CHARACTERISTICS

②	Model	Center Frequency (Center of 6dB B.W(kHz)min)	6dB BandWidth (kHz)max	40dB Band Width (kHz)max	Stop Band Attenuation 455±100KHz (dB)min	Insertion Loss at Minimum Loss pion (dB)max	Ripple (dB)max	Input/Output Impedance(Ω)
	LTUPC455D	455±1.5	±10	±20	27	4	(±7KHz)2.0	1500
LTUPC455E	455±1.5	±1.5	±15	27	6	(±5KHz)2.0	1500	
LTUPC455F	455±1.5	±6.0	±12.5	27	6	(±4KHz)2.0	1500	
LTUPC455G	455±1.5	±4.5	±10	27	6	(±3KHz)2.0	1500	

TECHNICAL CHARACTERISTICS

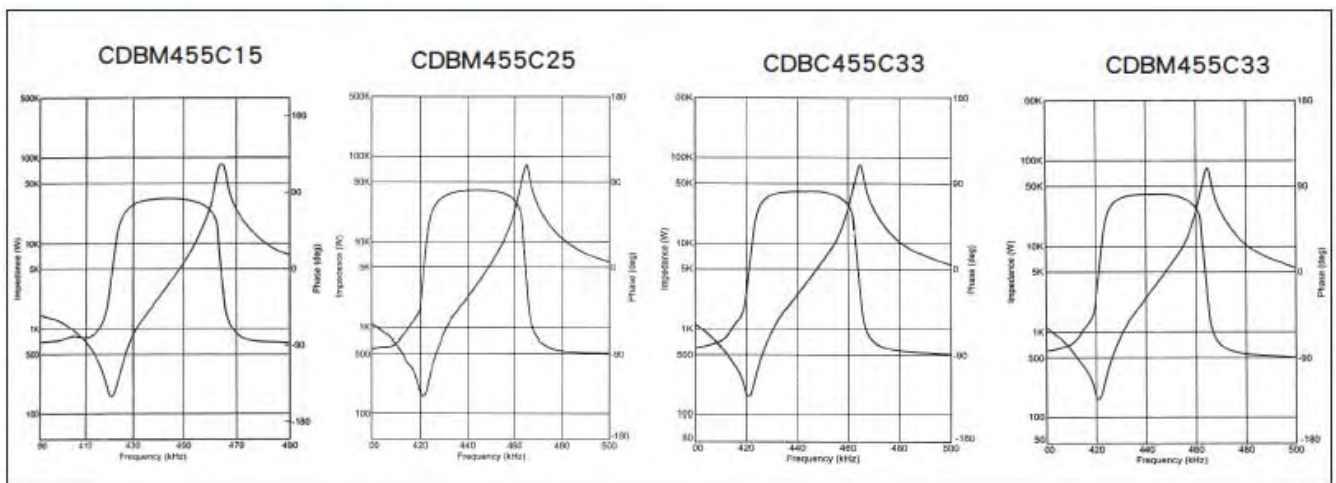
③	Model	Center Frequency (Center of 6dB B.W(kHz)min)	3dB BandWidth (kHz)max	6dB Band Width (kHz)max	50dB Band Width (kHz)max	Stop Band Attenuation 455±100KHz (dB)min	Insertion Loss at Minimum Loss pion (dB)max	Ripple (dB)max	Spurious response Within 01-1.0MHz	GDT Ripple Deviation (Use max)	Input/ Output Impedance (Ω)
	LTWC455B	455±1.5	±10	±15	±30	50	4.0	(±10KHz)2.0	20	(±10KHz)2.0	1500
LTWC455C	455±1.5	±8	±12.5	±25	50	4.0	(±8KHz)2.0	20	(±8KHz)2.0	1500	
LTWC455D	455±1.5	±7.0	±10	±20	50	4.0	(±7KHz)2.0	20	(±7KHz)2.0	1500	
LTWC455E	455±1.5	±5.5	±7.5	±15	50	4.0	(±5KHz)2.0	20	(±5KHz)2.0	1500	
LTWC455F	455±1.5	±4.0	±6.0	±12	47	6.0	(±4KHz)2.0	20	(±4KHz)2.0	1500	
LTWC455G	455±1.5	±3.0	±4.5	±10	47	6.0	(±3KHz)2.0	20	(±3KHz)2.0	1500	



TECHNICAL CHARACTERISTICS

Part Number	Nominal Center Frequency(f _n) (kHz)	Anti-resonant Frequency(F _a)	Delta F Δ(F _a -F _r)	Resonant Resistance(R)	Capacitance(C)	IC
CDBC455C33	-	458.0 ± 1.5kHz	42 ± 4.0kHz	300ohm max.	280pF ± 20%	CXA1474(SONY)
CDBM455C3	-	455.0 ± 1.5kHz	46 ± 5.0kHz	70ohm max.	550pF ± 20%	CXA1184(SONY)
CDBM455C15	-	463.5 ± 1.5kHz	43 ± 2.0kHz	300ohm max.	140pF ± 20%	CXA1183(SONY)
CDBM455C25	455	465.0 ± 1.5kHz	45 ± 4.0kHz	300ohm max.	135pF ± 20%	CXA1484(SONY)
CDBM455C33	455	465.0 ± 1.5kHz	45 ± 4.0kHz	300ohm max.	135pF ± 20%	CXA1474(SONY)

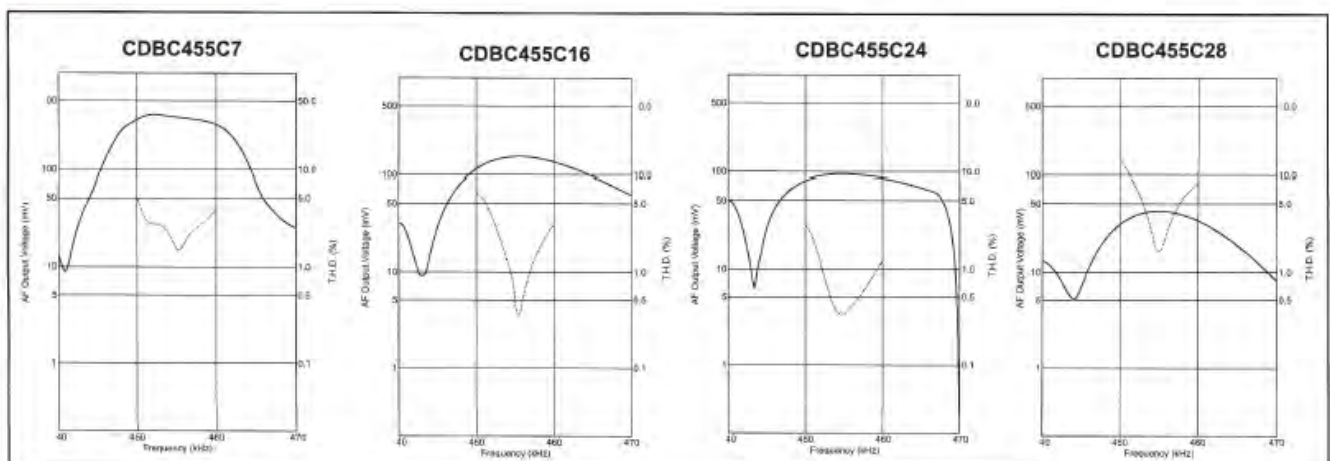
TECHNICAL CHARACTERISTICS



TECHNICAL CHARACTERISTICS

Part Number	Nominal Center Frequency(fn) (kHz)	INSERTION LOSS (dB) MAX.	Recovered Andio Output (mV)	Distortion(at fn)(%)	Distortion(%)	IC
CDBC455C7	455	fn±4.0 min.	350±60	3.0 max.	-	MC3357 (MOTOROLA)
CDBC455C9	455	fn±4.0 min.	120±40	1.5 max.	-	NE604N (PHILIPS)
CDBC455C13	455	fn±4.0 min.	330±50	4.0 max.	-	CXA1003BM (SONY)
CDBC455C16	455	fn±4.0 min.	175±40	2.0 max.	-	MC3372 (MOTOROLA)
CDBC455C21	455	fn±4.0 min.	55±20	2.0 max.	-	TA31132 (TOSHIBA)
CDBC455C24	455	fn±4.0 min.	100±40	2.0 max.	-	TA31136 (TOSHIBA)
CDBC455C27	455	fn±4.0 min.	90±30	2.0 max.	-	TK10487 (TOKO)
CDBC455C28	455	fn±4.0 min.	40±20	3.0 max.	-	TA31142F (TOSHIBA)
CDBC455C29	455	fn±4.0 min.	100±30	2.5 max.	-	NE605 (PHILIPS)
CDBC455C32	455	fn±4.0 min.	40±20	3.0 max.	-	TA31143 (TOSHIBA)
CDBC455C35	455	fn±4.0 min.	100±40	2.5 max.	-	TK10930 (TOKO)
CDBC455C40	455	fn±4.0 min.	40±20	3.5 max.	-	TA31145 (TOSHIBA)
CDBC455C49	455	fn±4.0 min.	45±10	3.0 max.	-	MC3361 (MOTOROLA)
CDBC455C50	455	fn±4.0 min.	64±6.4	4.0 max.	-	CXA317N (SONY)
CDBC455C36	455	fn±13.0 min.	90±30	2.5 max.	5.0 max.(within fn 6kHz)	NE(SA)606/ NE(SA)616 (PHILIPS)
CDBC455C39	455	fn±13.0 min.	130±20	2.5 max.	7.0 max.(within fn 8kHz)	NE607/NE617 (PHILIPS)
CDBC455C13	455	fn±13.0 min.	120±30	1.5 max.	5.0 max.(within fn 8kHz)	CXA1003BM (SONY)
CDBC455C21	455	fn±11.0 min.	75±25	2.5 max.	5.0 max.(within fn 5.5kHz)	TA31132 (TOSHIBA)

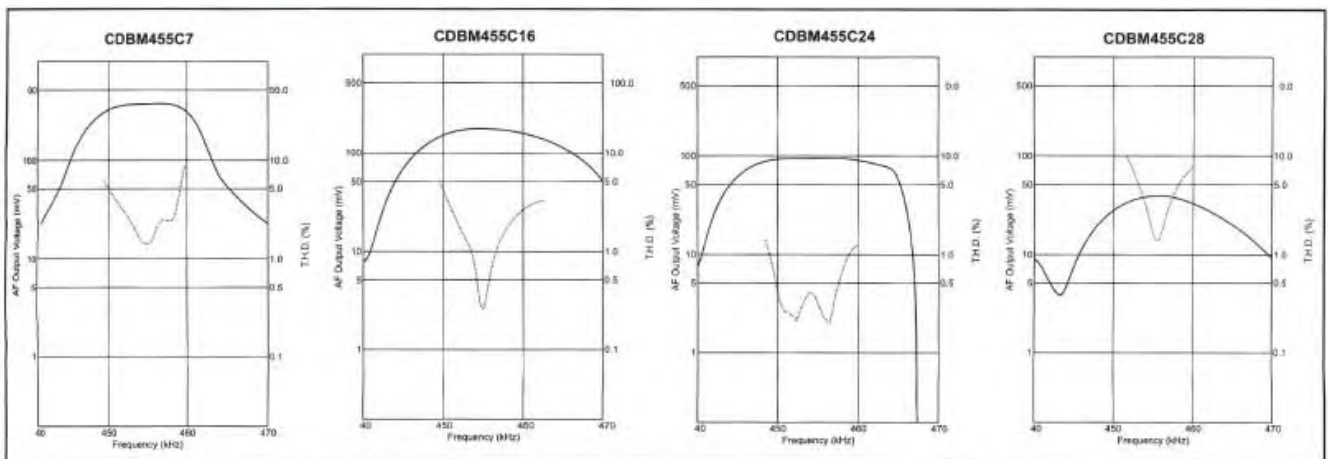
CHARACTERISTICS



TECHNICAL CHARACTERISTICS

Part Number	Nominal Center Frequency(fn) (kHz)	Recovered Audio 3dB BW(kHz)	Recovered Andio Output (mV)	Distortion(at fn)(%)	Distortion(%)	IC
CDBM455C7	455	fn 4.0 min	340 60	3.0 max	-	MC3357 (MOTOROLA)
CDBM455C13	455	fn 4.0 min	350 50	3.0 max	-	CXA1003BM (SONY)
CDBM455C21	455	fn 4.0 min	55 20	2.0 max	-	TA31132 (TOSHIBA)
CDBM455C24	455	fn 4.0 min	100 40	2.0 max	-	TA31136 (TOSHIBA)
CDBM455C28	455	fn 4.0 min	40 20	3.0 max	-	TA31142FN (TOSHIBA)
CDBM455C32	455	fn 4.0 min	40 20	3.0 max	-	TA31143 (TOSHIBA)
CDBM455C34	455	fn 4.0 min	65 20	2.5 max	-	MC13136 (MOTOROLA)
CDBM455C40	455	fn 4.0 min	40 20	3.0 max	-	TA31145 (TOSHIBA)
CDBM455C42	455	fn 4.0 min	40 15	3.0 max	-	TK14590/TK14591 (TOKO)
CDBM455C49	455	fn 4.0 min	45 10	3.0 max	-	MC3361 (MOTOROLA)
CDBM455C50	455	fn 4.0 min	64 6.4	4.0 max	-	CXA3117N (SONY)
CDBM455C9	455	fn 15.0 min	70 20	1.5 max	3.5 max.(within fn 8kHz)	NE604N (PHILIPS)
CDBM455C13	455	fn 15.0 min	110 30	1.5 max	5.0 max.(within fn 8kHz)	CXA1003BM (SONY)
CDBM455C21	455	fn 13.0 min	65 20	2.5 max	5.0 max.(within fn 8kHz)	TA31132 (TOSHIBA)
CDBM455C16	455	fn 4.0 min	185 40	2.0 max	-	MC3372 (MOTOROLA)
CDBM455C18	455	fn 3.0 min	180 40	2.0 max	-	MC3371 (MOTOROLA)
CDBM455C36	455	fn 3.5 min	100 25	3.5 max	-	NE606/616 (PHILIPS)

CHARACTERISTICS

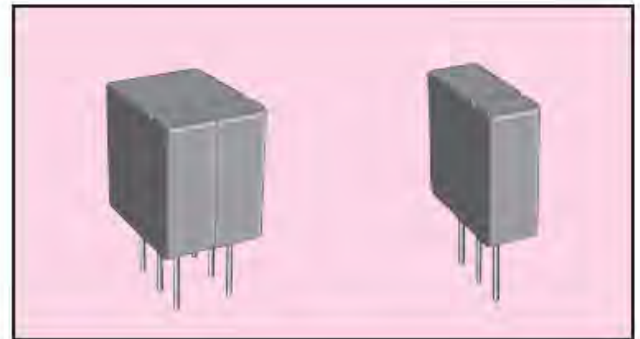


CHARACTERISTICS

<p>C3357</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C7</td> <td>190pF</td> <td>1.5kW</td> </tr> <tr> <td>CDBC455C7</td> <td>180pF</td> <td>1.4kW</td> </tr> </table>	CDBM455C7	190pF	1.5kW	CDBC455C7	180pF	1.4kW	<p>E604N</p> <p>Part Number (X) C R L</p> <table border="1"> <tr> <td>CDBM455C9</td> <td>120pF</td> <td>1.8kW</td> <td>-</td> </tr> <tr> <td>CDBC455C9</td> <td>120pF</td> <td>280W</td> <td>220nH</td> </tr> </table>	CDBM455C9	120pF	1.8kW	-	CDBC455C9	120pF	280W	220nH	<p>E605</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C16</td> <td>27pF</td> <td>4.3kW</td> </tr> <tr> <td>CDBC455C16</td> <td>100pF</td> <td>1.9kW</td> </tr> </table>	CDBM455C16	27pF	4.3kW	CDBC455C16	100pF	1.9kW
CDBM455C7	190pF	1.5kW																				
CDBC455C7	180pF	1.4kW																				
CDBM455C9	120pF	1.8kW	-																			
CDBC455C9	120pF	280W	220nH																			
CDBM455C16	27pF	4.3kW																				
CDBC455C16	100pF	1.9kW																				
<p>E604E</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C24</td> <td>91pF</td> <td>1.5kW</td> </tr> <tr> <td>CDBC455C24</td> <td>91pF</td> <td>1.2kW</td> </tr> </table>	CDBM455C24	91pF	1.5kW	CDBC455C24	91pF	1.2kW	<p>K10487</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C27</td> <td>33pF</td> <td>1.0kW</td> </tr> </table>	CDBM455C27	33pF	1.0kW	<p>TA31132</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C28</td> <td>22pF</td> <td>3.3kW</td> </tr> <tr> <td>CDBC455C28</td> <td>22pF</td> <td>2.7kW</td> </tr> </table>	CDBM455C28	22pF	3.3kW	CDBC455C28	22pF	2.7kW					
CDBM455C24	91pF	1.5kW																				
CDBC455C24	91pF	1.2kW																				
CDBM455C27	33pF	1.0kW																				
CDBM455C28	22pF	3.3kW																				
CDBC455C28	22pF	2.7kW																				
<p>C3372</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C29</td> <td>50pF</td> <td>2.2kW</td> </tr> </table>	CDBM455C29	50pF	2.2kW	<p>TA31142</p> <p>Part Number (X) C R</p> <table border="1"> <tr> <td>CDBM455C21</td> <td>100pF</td> <td>1.5kW</td> </tr> <tr> <td>CDBC455C21</td> <td>100pF</td> <td>1.2kW</td> </tr> </table>	CDBM455C21	100pF	1.5kW	CDBC455C21	100pF	1.2kW	<p>A31143</p> <p>Part Number (X) R</p> <table border="1"> <tr> <td>CDBM455C32</td> <td>3.3kW</td> </tr> <tr> <td>CDBC455C32</td> <td>2.7kW</td> </tr> </table>	CDBM455C32	3.3kW	CDBC455C32	2.7kW							
CDBM455C29	50pF	2.2kW																				
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CDBM455C32	3.3kW																					
CDBC455C32	2.7kW																					

FEATURES

- * AM use
- * Excellent matching characteristics for IFT



OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PART NUMBER	3dB BANDWIDTH (KHz)	SELECTIVITY -9 KHZ OFF (dB) MIN.	SELECTIVITY +9 KHZ OFF (dB) MIN.	INSERTION LOSS (dB) MAX.	COMPOSITION
LPU455B-connected with IFT	10 ± 3	5 (7.5)	3 (5.5)	5 (3)	1 Element with IFT
LPZ455JL-connected with IFT	5.5 ± 1	18 (20)	18 (20)	7 (3.5)	2 Elements Direct Coupling Type

- Center frequency (fo) is available in a range of 450 to 470KHz. The standard tolerance of fo is ±2KHz. For synthesizers and digital indicators, ±1KHz tolerance is also available.
 - The LPZ455JL series, with its two directly coupled elements, has a high degree of selectivity. The series features excellent matching characteristics for IFT.
- () = Typical values

PACKAGE DIMENSIONS (mm)

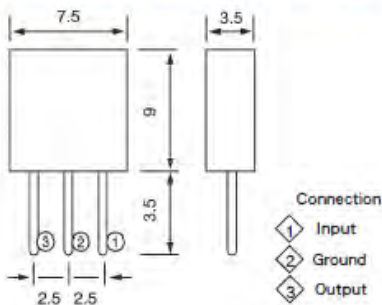


Figure 1) LPU455B - Front and Side views

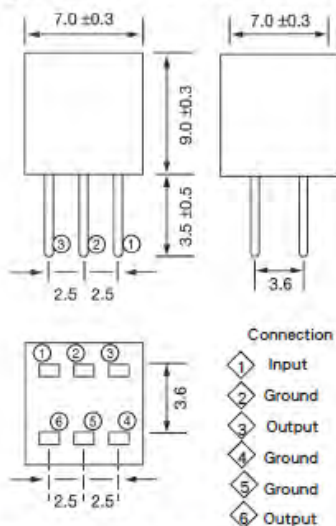


Figure 2) LPZ455JL -Front, Side and Bottom views

ITEM \ TYPE	LPU □□□ B			LPZ □□□ JL		
WINDING SPECIFICATIONS	① - ②	② - ③	④ - ⑥	① - ②	② - ③	④ - ⑥
Bottom view	70 T	115 T	7 T	68 T	84 T	14 T
UNLOADED Qu	105			90		
TUNING CAPACITY	180pF			180pF		

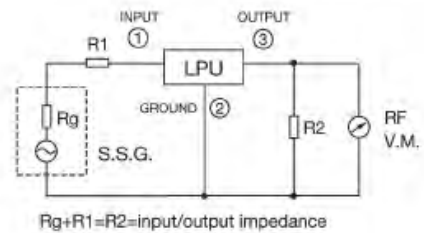


Figure 4) LPU Series - Measuring Circuit

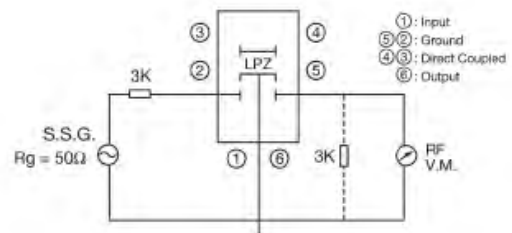


Figure 5) LPZ Series - Measuring Circuit