

DISCRIMINATOR

Ceramic Discriminator for Communications Equipment

muRata

High Performance Ceramic Discriminator for Various Mobile Communication Equipment

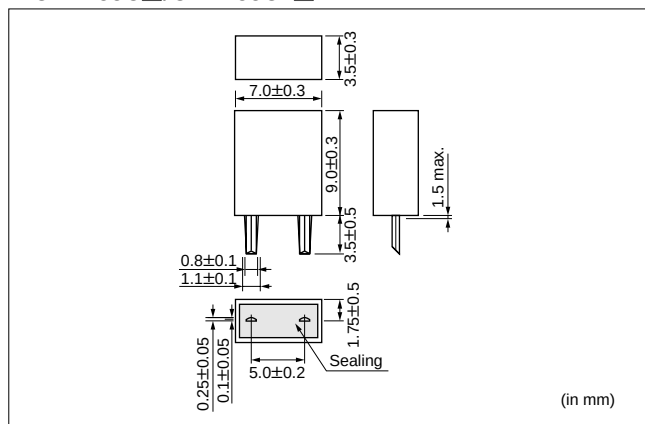
Ceramic discriminator consists of wide band piezoelectric resonator. It is ideal for mobile communication equipments due to its small size and light weight. Standard line include products for wide range of application, from cordless telephone to cellular telephone, making non-adjustment and shrinking of the detection circuit possible.

■FEATURES

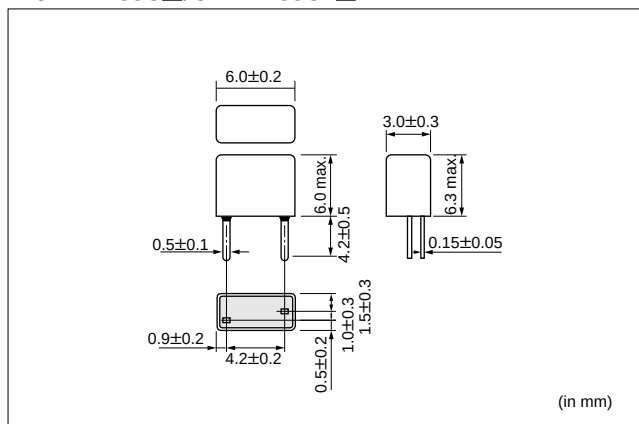
1. Small in size and light weight.
2. Realize non-adjustment in detection circuit.
3. High sensitivity and stability.
4. Wide range of standard products are available for various ICs.
5. Operating temperature range : -20°C to $+80^{\circ}\text{C}$
Storage temperature range : -40°C to $+85^{\circ}\text{C}$

■DIMENSIONS

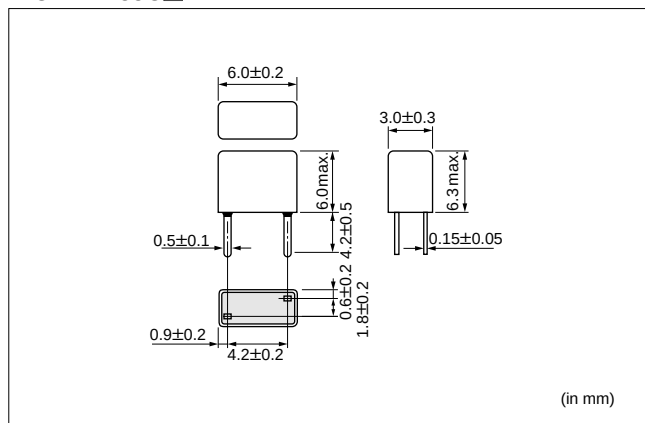
● CDB455C□/CDB455CL□



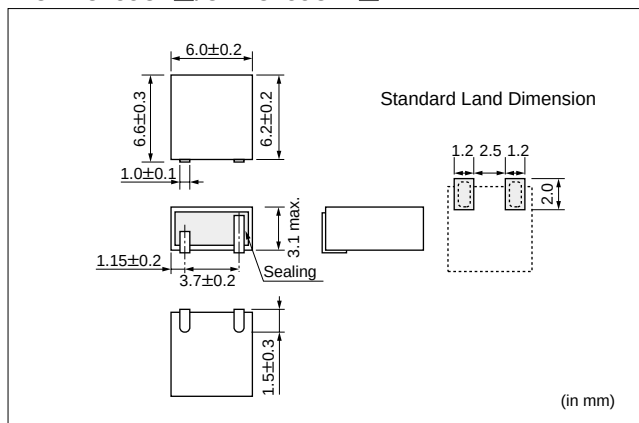
● CDBM455C□/CDBM455CL□



● CDBM455C□



● CDBC455CX□/CDBC455CLX□



*Refer to the IC list in the next page for suffix number in □.

■ELECTRICAL CHARACTERISTICS

● Impedance Curve Specification

Character-istics Part Number	Resonant Frequency (Fr)	Antiresonant Frequency (Fa)	$\Delta F(Fa-Fr)$	Resonant Resistance (R1)	Capacitance (C)	I C	Application
CDBM455C2	447±1.5kHz ($ \dot{Z} =2.05k\Omega$) 463±1.5kHz ($ \dot{Z} =10.0k\Omega$)				140pF±20%	TA8104	Pager
CDBC455CX2	447±1.5kHz ($ \dot{Z} =0.80k\Omega$) 463±1.5kHz ($ \dot{Z} =3.65k\Omega$)				280pF±20%		
CDB455C3	—	455 ±1.5kHz	48±5.0kHz	70 Ω max.	600pF±20%	CXA1184M	Pager
CDBM455C3	—	455 ±1.5kHz	46±5.0kHz	70 Ω max.	550pF±20%		
CDBM455C4	—	470 ±1.0kHz	43±2.0kHz	300 Ω max.	140pF±20%	LA8610	Pager
CDB455C10	429±2kHz	—	51±5.0kHz	70 Ω max.	580pF±20%	TA8103F	Cordless Telephone
CDBM455C10	429±2kHz	—	51±5.0kHz	70 Ω max.	580pF±20%		
CDBM455C15	—	463.5±1kHz	43±2.0kHz	300 Ω max.	140pF±20%	CXA1183M	Cordless Telephone
CDBM455C25	—	465 ±1.5kHz	45±4.0kHz	300 Ω max.	135pF±20%	CXA1484	Pager
CDBM455C31	447±1.5kHz ($ \dot{Z} =2.05k\Omega$) 463±1.5kHz ($ \dot{Z} =10.0k\Omega$)				140pF±20%	TA31141	Pager
CDBC455CX31	447±1.5kHz ($ \dot{Z} =0.80k\Omega$) 463±1.5kHz ($ \dot{Z} =3.65k\Omega$)				280pF±20%		
CDBM455C33	—	465±1.5kHz	45±4.0kHz	300 Ω max.	135pF±20%	CXA1474	Pager

● Recovered Audio Curve Specification

Character-istics Part Number	Recovered Audio 3dB Bandwidth (from 455kHz)	Recovered Audio Output (at 455kHz)	Distortion		I C	Application
			at 455kHz	within 455±8kHz		
CDB455C7	±4.0kHzmin.	340±60mV	2.5%max.	—	MC3357	Cordless Telephone, Communications Equipment
CDBM455C7	±4.0kHzmin.	340±60mV	3.0%max.	—		
CDBC455CX7	±4.0kHzmin.	350±60mV	3.0%max.	—		
CDB455C9	±5.0kHzmin.	100mVmin.	1.5%max.	—	NE604N	Cordless Telephone, Cellular Phone, Communications Equipment
CDBM455C9	±5.0kHzmin.	100mVmin.	1.5%max.	—		
CDBC455CX9	±4.0kHzmin.	120±40mV	1.5%max.	—		
CDB455CL9	±15.0kHzmin.	70±20mV	1.5%max.	3.5%max.		
CDBM455CL9	±15.0kHzmin.	70±20mV	1.5%max.	3.5%max.		
CDB455C13A	±4.0kHzmin.	350±50mV	3.0%max.	—	CXA1003BM	Cellular Phone, Communications Equipment
CDBM455C13A	±4.0kHzmin.	350±50mV	3.0%max.	—		
CDBC455CX13	±4.0kHzmin.	330±50mV	4.0%max.	—		
CDB455CL13	±15.0kHzmin.	110±30mV	1.5%max.	5.0%max.		
CDBM455CL13	±15.0kHzmin.	110±30mV	1.5%max.	5.0%max.		
CDBC455CLX13	±13.0kHzmin.	120±30mV	1.5%max.	5.0%max.	MC3372	Cellular Phone, Cordless Telephone, Communications Equipment
CDB455C16	±4.0kHzmin.	185±40mV	2.0%max.	—		
CDBM455C16	±4.0kHzmin.	185±40mV	2.0%max.	—		
CDBC455CX16	±4.0kHzmin.	175±40mV	2.0%max.	—	MC3371	Cordless Telephone, Communications Equipment
CDBM455C18	±3.0kHzmin.	180±40mV	2.0%max.	—		
CDB455C21	±4.0kHzmin.	55±20mV	2.0%max.	—	TA31132	Cordless Telephone, Cellular Phone, Communications Equipment
CDBM455C21	±4.0kHzmin.	55±20mV	2.0%max.	—		
CDBC455CX21	±4.0kHzmin.	55±20mV	2.0%max.	—		
CDB455CL21	±13.0kHzmin.	65±20mV	2.5%max.	5.0%max.		
CDBM455CL21	±13.0kHzmin.	65±20mV	2.5%max.	5.0%max.		
CDBC455CLX21	±11.0kHzmin.	75±25mV	2.5%max.	5.0%max.	TA31136	Cordless Telephone, Communications Equipment
CDB455C24	±4.0kHzmin.	100±40mV	2.0%max.	—		
CDBM455C24	±4.0kHzmin.	100±40mV	2.0%max.	—		
CDBC455CX24	±4.0kHzmin.	100±40mV	2.0%max.	—	TK10487	Cordless Telephone, Communications Equipment
CDB455C27	±4.0kHzmin.	100±40mV	2.0%max.	—		
CDBM455C27	±4.0kHzmin.	100±40mV	2.0%max.	—		
CDBC455CX27	±4.0kHzmin.	90±30mV	2.0%max.	—	TA31142	Pager
CDB455C28	±4.0kHzmin.	40±20mV	3.0%max.	—		
CDBM455C28	±4.0kHzmin.	40±20mV	3.0%max.	—		
CDBC455CX28	±4.0kHzmin.	40±20mV	3.0%max.	—		

Character- istics Part Number	Recovered Audio 3dB Bandwidth (from 455kHz)	Recovered Audio Output (at 455kHz)	Distortion		I C	Application
			at 455kHz	within 455±8kHz		
CDB455C29	±4.0kHzmin.	125±30mV	2.5%max.	—	NE605	Cordless Telephone, Communications Equipment
CDBM455C29	±4.0kHzmin.	125±30mV	2.5%max.	—		
CDBC455CX29	±4.0kHzmin.	100±30mV	2.5%max.	—		
CDB455C30	±4.0kHzmin.	90±30mV	2.0%max.	—	TK14501	Telephone, Communications Equipment
CDBM455C30	±4.0kHzmin.	90±30mV	2.0%max.	—		
CDBC455CX30	±4.0kHzmin.	80±20mV	2.0%max.	—		
CDB455C32	±4.0kHzmin.	40±20mV	3.0%max.	—	TA31143	Pager
CDBM455C32	±4.0kHzmin.	40±20mV	3.0%max.	—		
CDBC455CX32	±4.0kHzmin.	40±20mV	3.0%max.	—		
CDB455C34	±4.0kHzmin.	65±20mV	2.5%max.	—	MC13136	Cordless Telephone, Communications Equipment
CDBM455C34	±4.0kHzmin.	65±20mV	2.5%max.	—		
CDB455C35	±4.0kHzmin.	100±40mV	2.5%max.	—	TK10930	Cordless Telephone, Communications Equipment
CDBM455C35	±4.0kHzmin.	100±40mV	2.5%max.	—		
CDBC455CX35	±4.0kHzmin.	100±40mV	2.5%max.	—		
CDBM455C36	±3.5kHzmin.	100±25mV	3.5%max.	—	NE (SA) 606	Cordless Telephone, Cellular Phone
CDBC455CLX36	±13.0kHzmin.	90±30mV	2.5%max.	5.0%max.	NE (SA) 616	
CDBM455C39	±4.0kHzmin.	85±20mV	2.5%max.	—	NE (SA) 607/617	Cordless Telephone
CDBC455CLX39	±11.0kHzmin.	130±20mV	2.5%max.	7.0%max.	NE607/617	
CDBM455C40	±4.0kHzmin.	40±20mV	3.0%max.	—	TA31145	Pager
CDBC455CX40	±4.0kHzmin.	40±20mV	3.5%max.	—		
CDB455C42	±4.0kHzmin.	40±15mV	3.0%max.	—	TK14590/14591	Pager
CDBM455C42	±4.0kHzmin.	40±15mV	3.0%max.	—		
CDBM455C49	±4.0kHzmin.	45±10mV	3.0%max.	—	MC3361	Cordless Telephone
CDBC455CX49	±4.0kHzmin.	45±10mV	3.0%max.	—		
CDBM455C50	±4.0kHzmin.	64±6.4mV	4.0%max.	—	CXA3117	Pager
CDBC455CX50	±4.0kHzmin.	64±6.4mV	4.0%max.	—		

● S Curve Specification

Character- istics Part Number	Nominal Center Frequency	S Curve Characteristics i) Output Voltage at 450kHz	S Curve Characteristics ii) Difference Voltage Between at 450—4.8kHz and at 450+4.8kHz	I C	Application
CDBM455C47	455kHz	140±20mV	150±15mV	TA31147	Pager
CDBC455CX47	455kHz	130±20mV	150±15mV		
CDBM455C54	455kHz	165±20mV	170±20mV	TA31149	Pager
CDBC455CX54	455kHz	165±20mV	170±20mV		

TEST CIRCUIT

MC3357

Part Number (X)	C	R
CDB455C7	150pF	1.5kΩ
CDBM455C7		
CDBC455CX7	150pF	1.3kΩ

NE604N

Part Number (X)	C	R	L
CDB455C9	120pF	1.8kΩ	—
CDBM455C9			
CDBC455CX9	120pF	560Ω	20μH
CDB455CL9			
CDBM455CL9	120pF	560Ω	20μH
CDBC455CLX13			

CXA1003BM

Part Number (X)	C	R	L
CDB455C13A	82pF	1.2kΩ	—
CDBM455C13A			
CDBC455CX13	82pF	1.0kΩ	—
CDB455CL13			
CDBM455CL13	82pF	560Ω	220μH
CDBC455CLX13			

MC3372

Part Number (X)	C	R
CDB455C16	100pF	1.3kΩ
CDBM455C16		
CDBC455CX16	100pF	1.0kΩ

MC3371

Part Number (X)	R
CDBM455C18	6.2kΩ

TA31132

Part Number (X)	C	R	L
CDB455C21	100pF	1.5kΩ	—
CDBM455C21			
CDBC455CX21	100pF	1.2kΩ	—
CDB455CL21			
CDBM455CL21	100pF	680Ω	220μH
CDBC455CLX21			

TA31136

Part Number (X)	C	R
CDB455C24	91pF	1.5kΩ
CDBM455C24		
CDBC455CX24	91pF	1.2kΩ

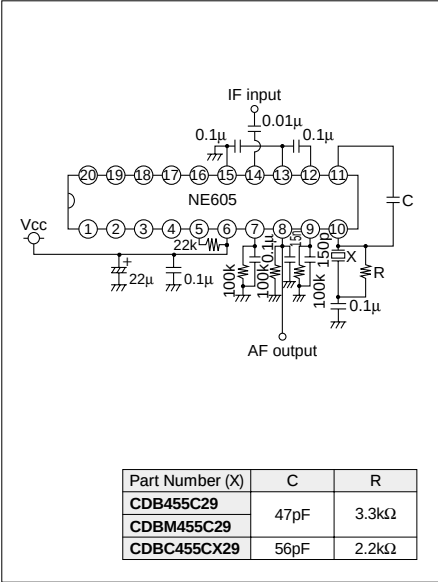
TK10487

Part Number (X)	C	R
CDB455C27	33pF	1.2kΩ
CDBM455C27		
CDBC455CX27	33pF	1.0kΩ

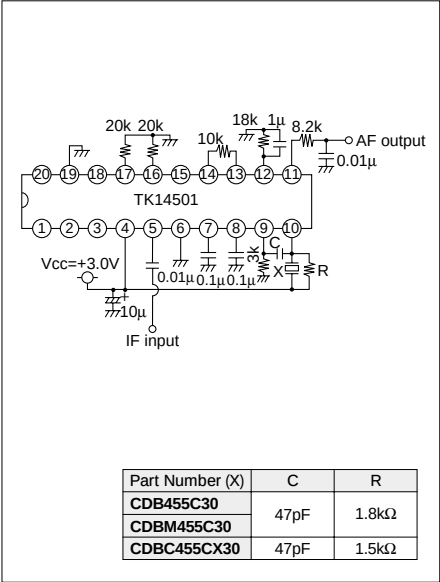
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Part Number (X)	C	R
CDB455C28	22pF	3.3kΩ
CDBM455C28		
CDBC455CX28	22pF	2.7kΩ

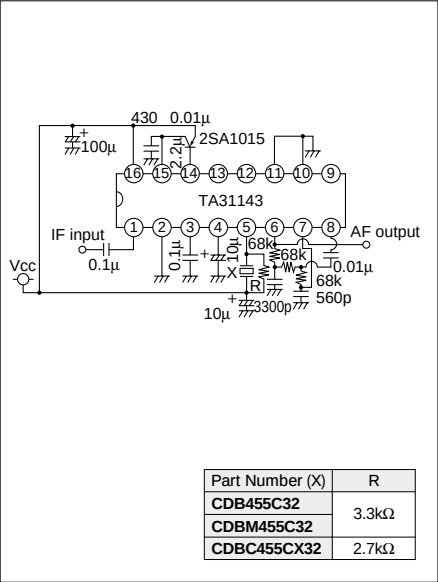
NE605



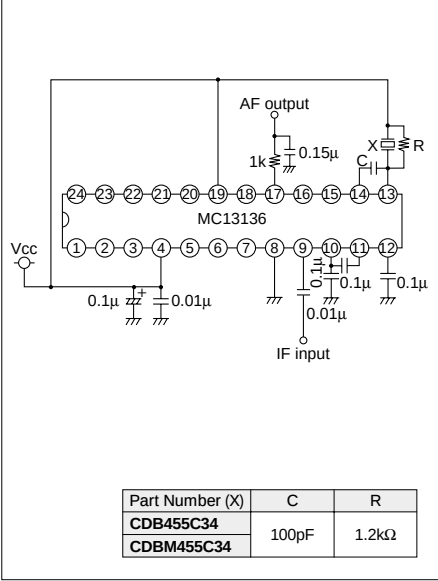
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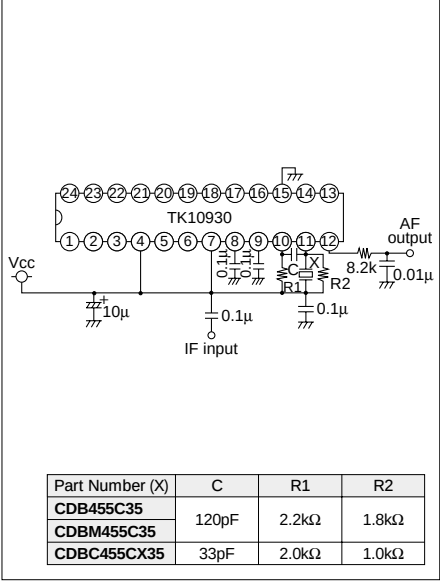
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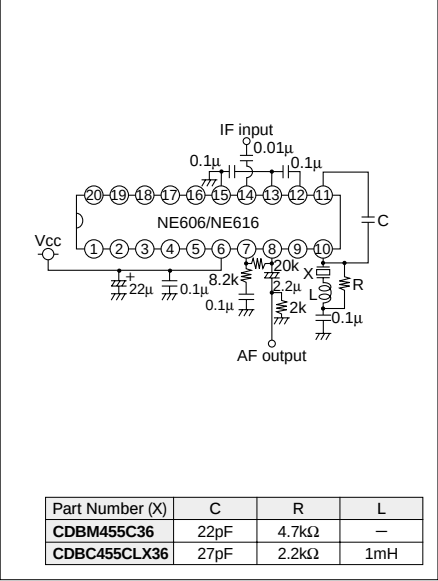
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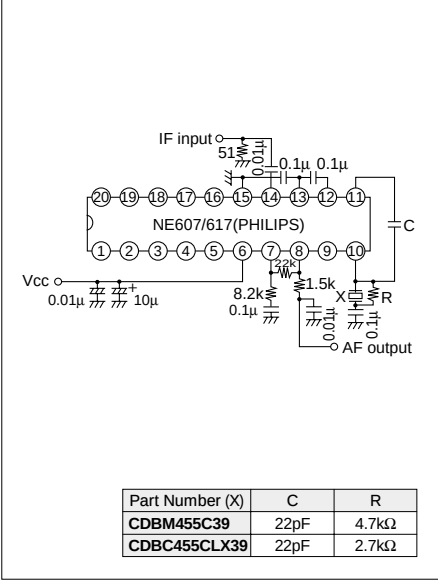
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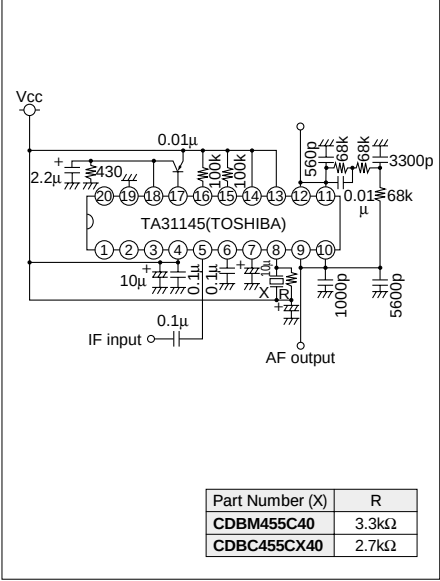
NE (SA) 606/616



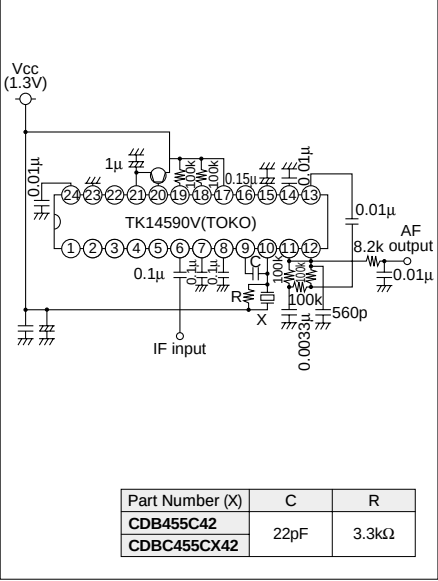
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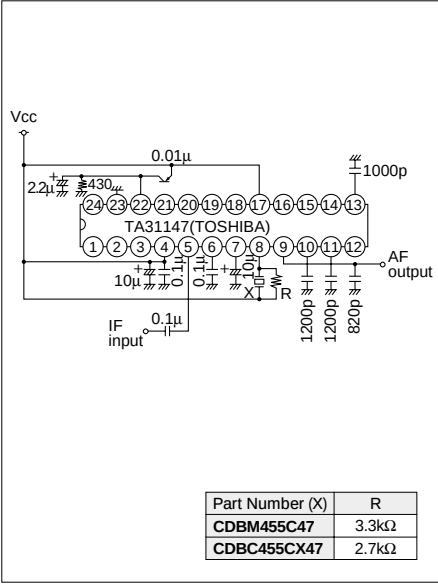
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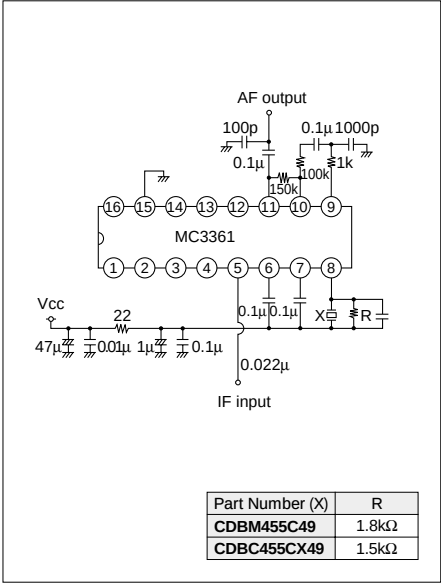
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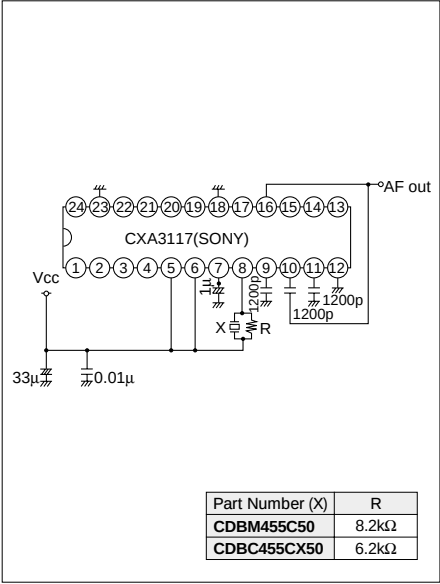
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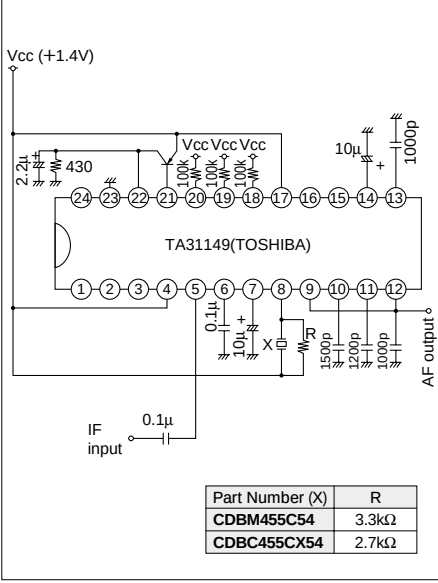
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CXA3117



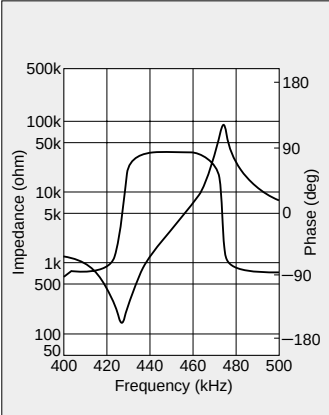
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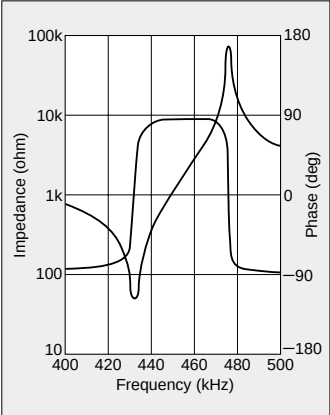
FREQUENCY CHARACTERISTICS

Impedance Curve Specification

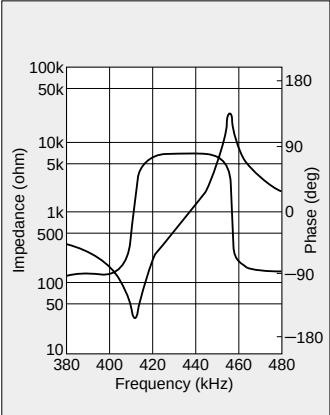
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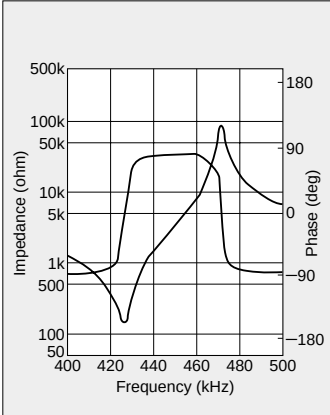
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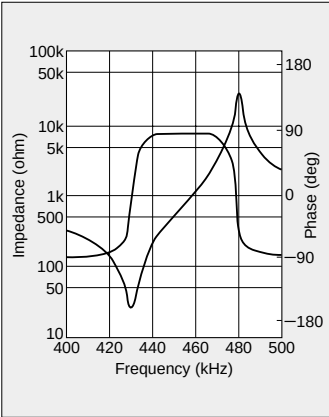
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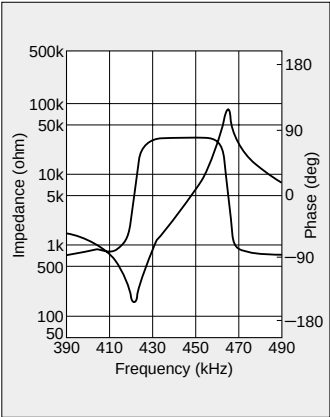
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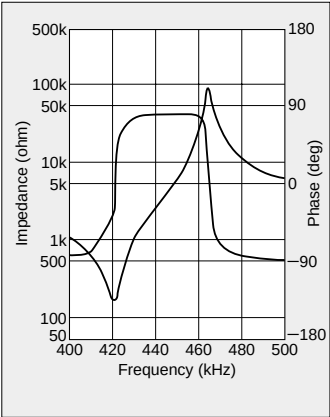
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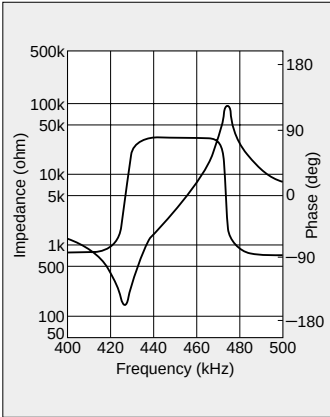
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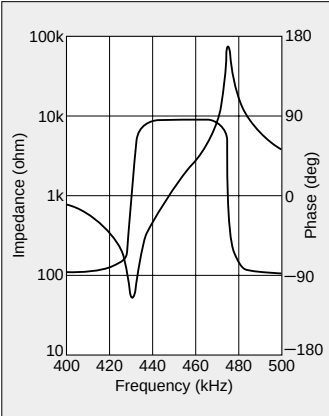
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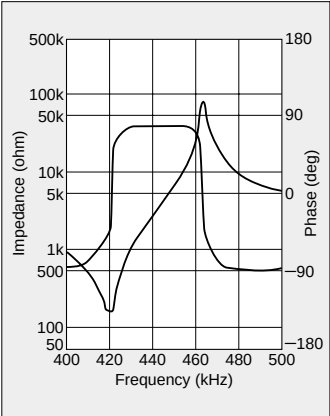
CDBM455C31



CDBC455CX31

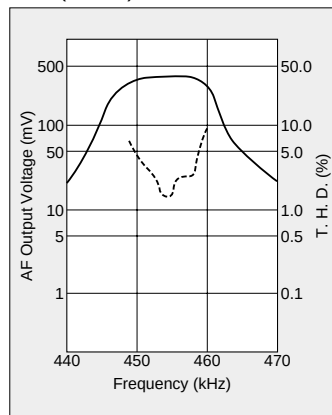


CDBM455C33

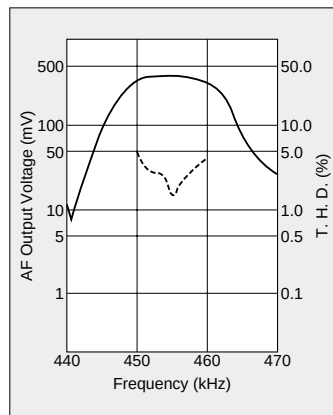


● Recovered Audio Curve Specification

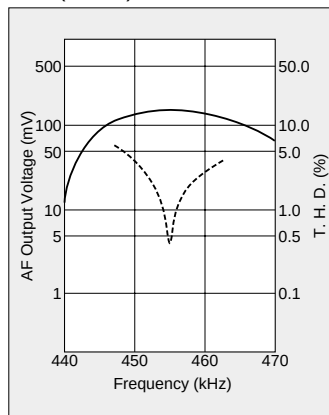
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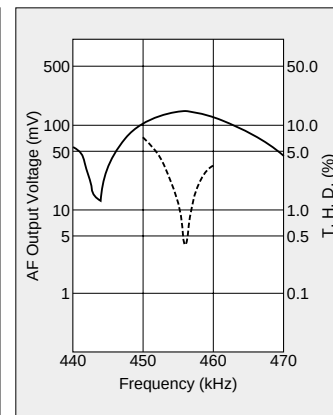
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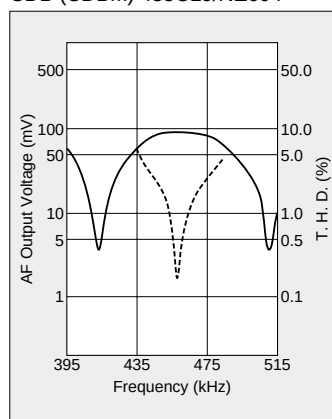
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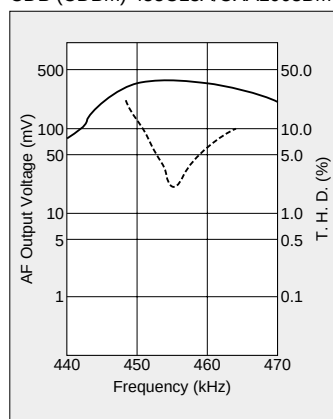
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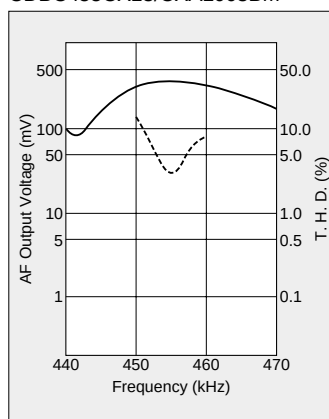
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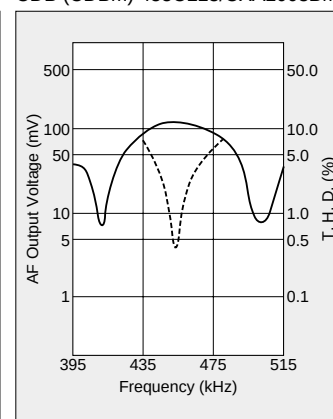
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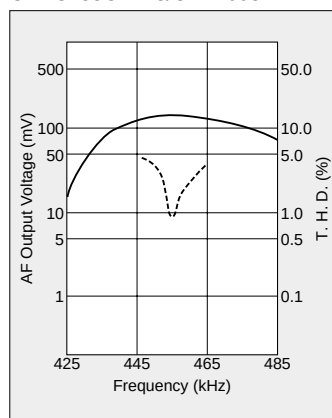
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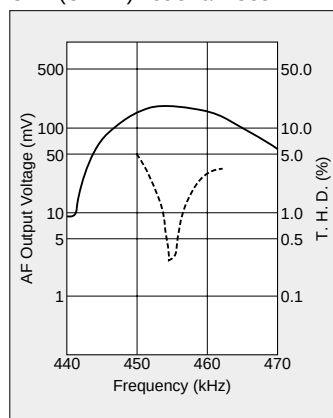
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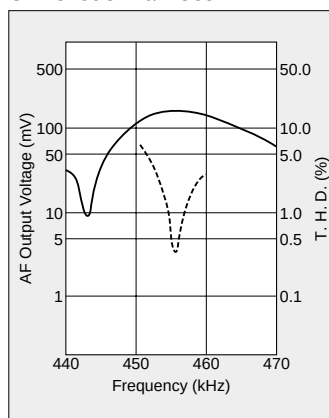
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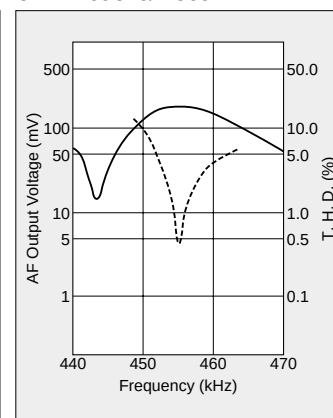
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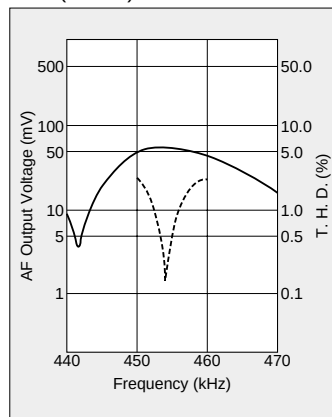
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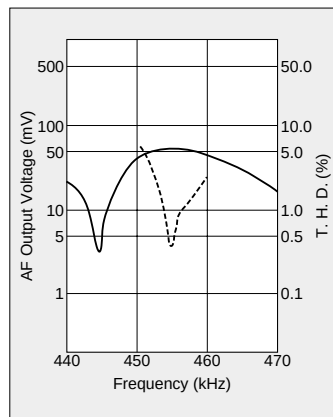
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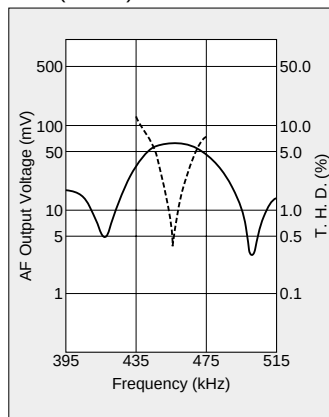
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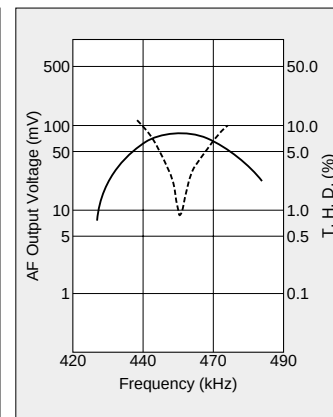
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CDB (CDBM) 455CL21/TA31132

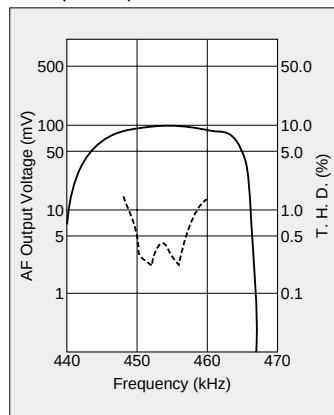


CDBC455CLX21/TA31132

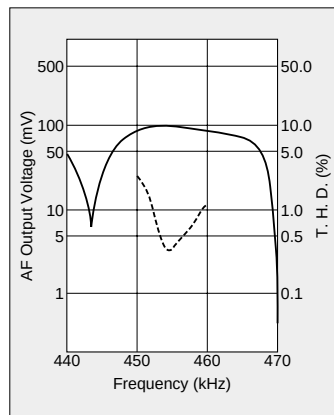


● Recovered Audio Curve Specification

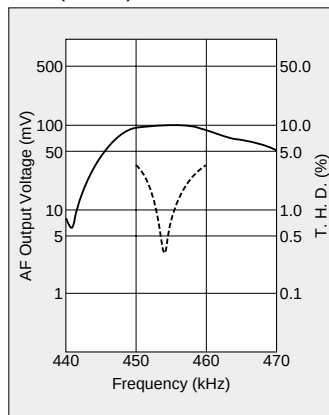
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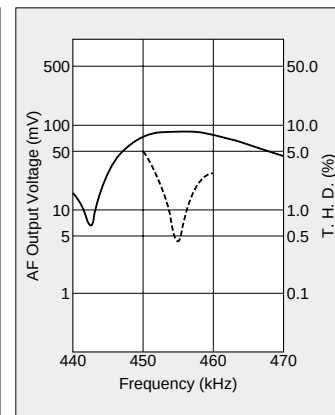
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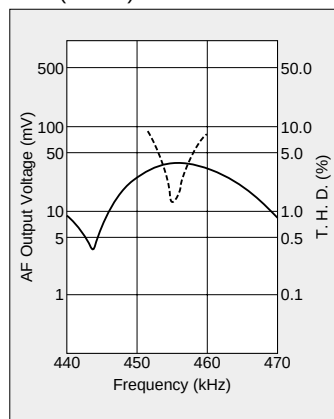
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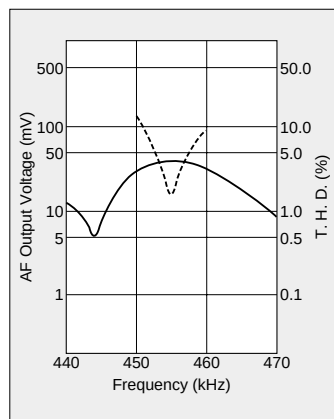
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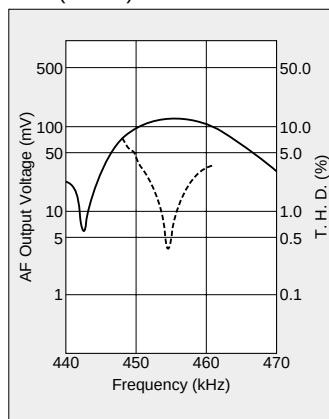
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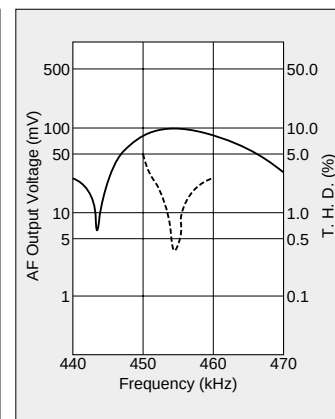
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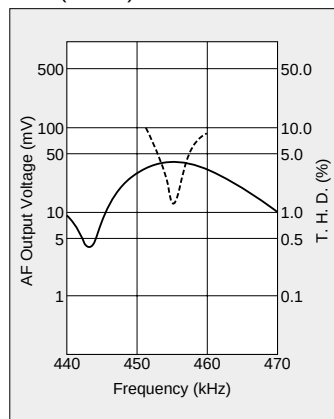
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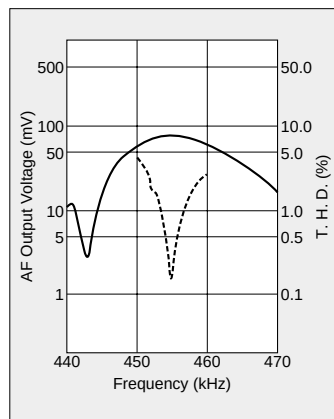
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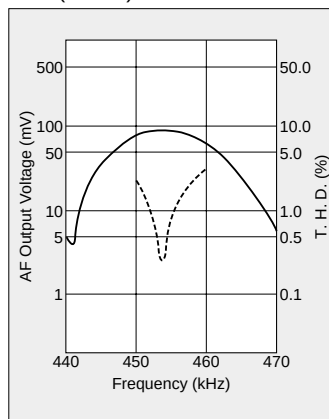
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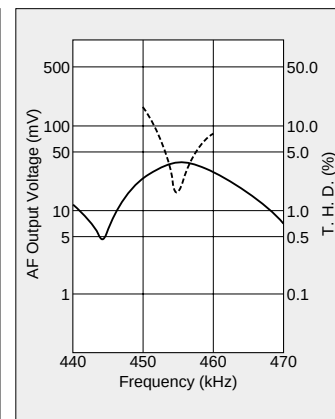
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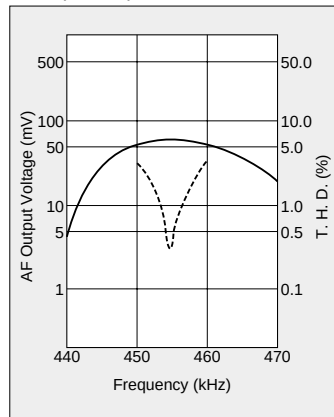
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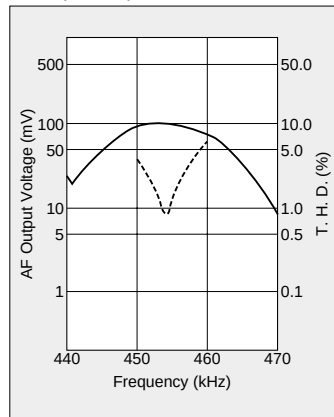
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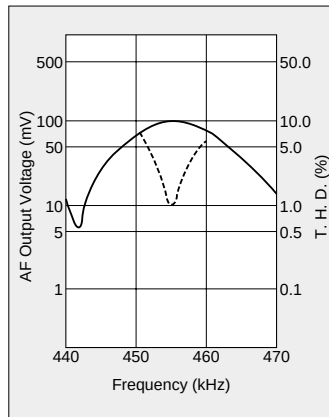
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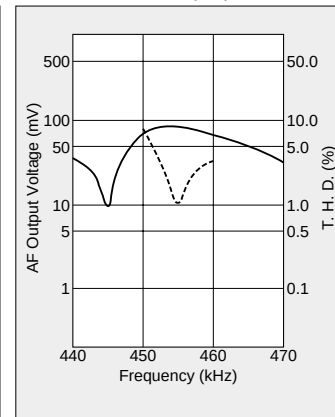
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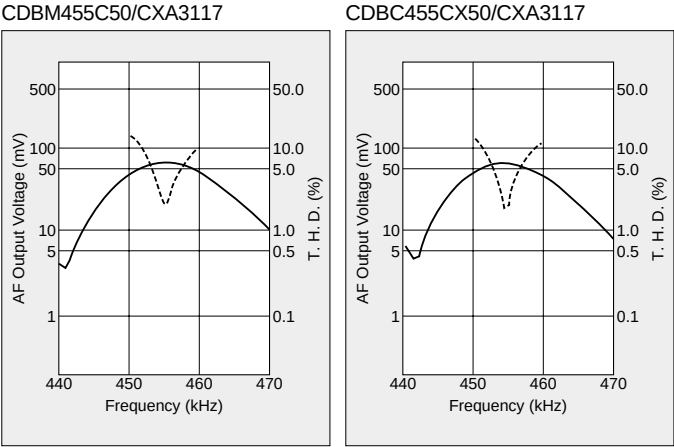
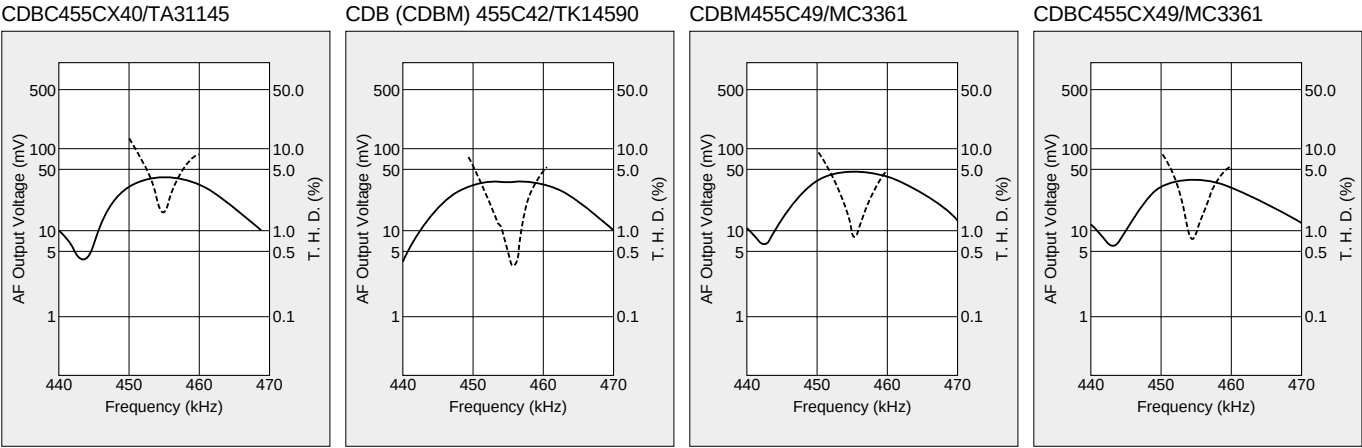
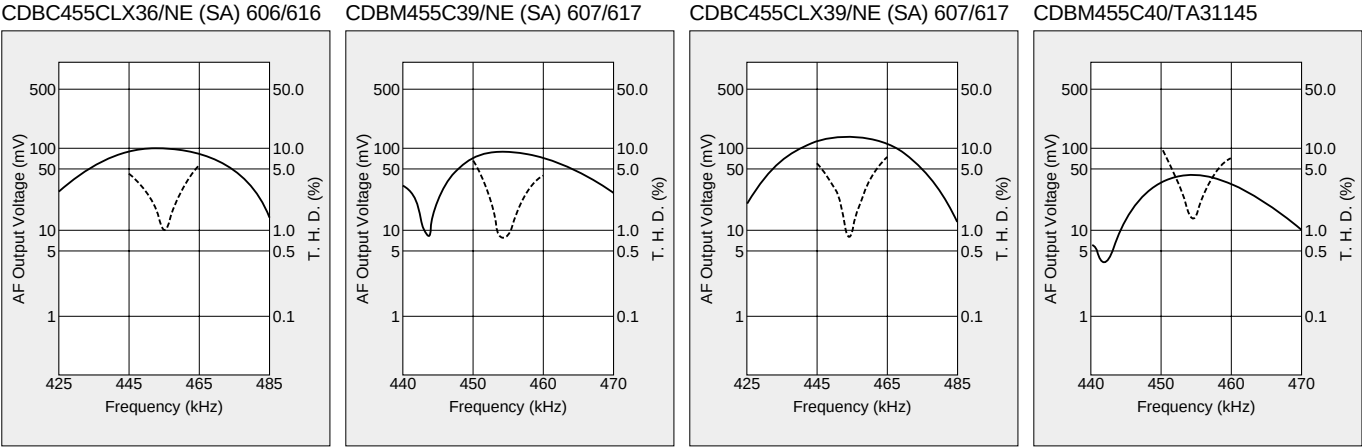
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●Recovered Audio Curve Specification



●S Curve Specification

