

## FEATURES

- Winding type realizes small size and low profile.
- Excellent solderability .
- Prevention of common mode noise at high frequency.
- Operating Temperature: -40°C~+85°C .
- RoHS, Halogen Free and REACH Compliance.



## APPLICATIONS

- USB2.0 of PC, peripheral equipment's, small digital AV equipment's, etc.
- LVDS lines of Note PC, LCD ,Audio lines.

## PART NUMBERING

AP	CW	2012	-	900	P	2	T	□□
①	②	③		④	⑤	⑥	⑦	⑧
Grade	Series Name	External Dimensions		Nominal Impedance	Impedance Tolerance	Lines	Packaging	Design Code

① Grade	
AP	Grade Code

② Series Name	
CW	Winding Type Common Mode Choke Coil

③ External Dimensions	
	2012 [0805]
	3216 [1206]
	3225 [1210]
	4532[1812]

⑥ Number of Lines	
	2

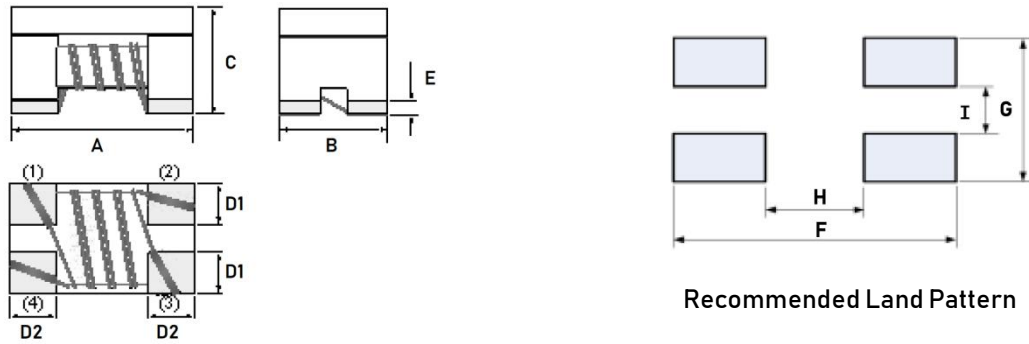
④ Nominal Impedance	
Code (example)	Nominal Impedance [ $\Omega$ ]
900	90
121	120
102	1000

⑦ Packaging	
T	Tape & Reel

⑤ Impedance Tolerance	
Code (example)	Impedance Tolerance
P	±25%
N	±30%

⑧ Design Code	
□□	Standard product is blank

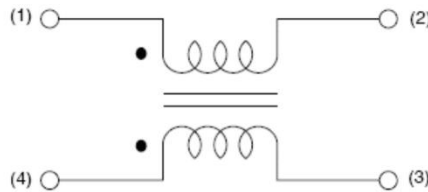
**DIMENSIONS & RECOMMENDED LAND PATTERN**



Unit: mm

Series	Dimensions						Recommended Land Pattern			
	A	B	C	E	D1 Typ.	D2 Typ.	F Typ.	G Typ.	I Typ.	H Typ.
APCW2012	2.0±0.2	1.2±0.2	1.2±0.2	0.2±0.1	0.55	0.46	2.6	1.25	0.4	0.8
APCW3216	3.2±0.2	1.6±0.2	1.9±0.2	0.2±0.1	0.7	0.6	3.5	1.6	0.4	1.9
APCW3225	3.2±0.2	2.5±0.2	2.1±0.2	0.2±0.1	0.8	0.9	4	2.5	0.9	2.2
APCW4532	4.5±0.2	3.2±0.2	2.8±0.2	0.2±0.1	1	1.2	5.10	3.6	1.05	3.4

**EQUIVALENT CIRCUIT**



**ELECTRICAL CHARACTERISTICS**

● APCW2012 Series

Part Number	Impedance	Rated Voltage	Test Freq.	Heat Rating Current Max.	DC Resistance Max.	Insulation Resistance Min.
Units	Ω	Volts	MHz	mA	Ω	MΩ
Symbol	Z	VDC	Freq.	I <sub>rms</sub>	DCR	IR
APCW2012-500P2T	50	50	100	400	0.25	10
APCW2012-670P2T	67	50	100	400	0.25	10
APCW2012-900P2T	90	50	100	330	0.35	10
APCW2012-121P2T	120	50	100	370	0.3	10
APCW2012-181P2T	180	50	100	330	0.35	10
APCW2012-221P2T	220	50	100	300	0.4	10
APCW2012-261P2T	260	50	100	300	0.4	10
APCW2012-361P2T	360	50	100	280	0.55	10
APCW2012-601P2T	600	50	100	220	0.6	10
APCW2012-801P2T	800	50	100	300	0.88	10
APCW2012-901P2T	900	50	100	150	0.9	10
APCW2012-102P2T	1000	50	100	150	1.3	10

## ELECTRICAL CHARACTERISTICS

## ● APCW3216 Series

Part Number	Impedance	Rated Voltage	Test Freq.	Heat Rating Current Max.	DC Resistance Max.	Insulation Resistance Min.
Units	$\Omega$	Volts	MHz	mA	$\Omega$	M $\Omega$
Symbol	Z	VDC	Freq.	Irms	DCR	IR
APCW3216-900P2T	90	50	100	370	0.3	10
APCW3216-121P2T	120	50	100	350	0.3	10
APCW3216-161P2T	160	50	100	340	0.4	10
APCW3216-221P2T	220	50	100	300	0.45	10
APCW3216-261P2T	260	50	100	310	0.5	10
APCW3216-361P2T	360	50	100	300	0.6	10
APCW3216-601P2T	600	50	100	260	0.8	10
APCW3216-801P2T	800	50	100	240	0.9	10
APCW3216-102P2T	1000	50	100	230	1	10
APCW3216-142P2T	1400	50	100	220	1	10
APCW3216-202P2T	2000	50	100	200	1.2	10
APCW3216-222P2T	2200	50	100	200	1.2	10

## ● APCW3225 Series

Part Number	Impedance	Rated Voltage	Test Freq.	Heat Rating Current Max.	DC Resistance Max.	Insulation Resistance Min.
Units	$\Omega$	Volts	MHz	mA	$\Omega$	M $\Omega$
Symbol	Z	VDC	Freq.	Irms	DCR	IR
APCW3225-800P2T	80	50	100	640	0.12	10
APCW3225-161P2T	160	50	100	480	0.15	10
APCW3225-271P2T	270	50	100	450	0.25	10
APCW3225-501P2T	500	50	100	1000	0.3	10
APCW3225-601P2T	600	50	100	1000	0.2	10
APCW3225-801P2T	800	50	100	350	0.35	10
APCW3225-102P2T	1000	50	100	480	0.35	10

## ● APCW4532 Series

Part Number	Impedance	Rated Voltage	Test Freq.	Heat Rating Current Max.	DC Resistance Max.	Insulation Resistance Min.
Units	$\Omega$	Volts	MHz	mA	$\Omega$	M $\Omega$
Symbol	Z	VDC	Freq.	Irms	DCR	IR
APCW4532-800P2T	80	50	100	3000	0.05	10
APCW4532-900P2T	90	50	100	3000	0.09	10
APCW4532-121P2T	120	50	100	3000	0.1	10
APCW4532-201P2T	200	50	100	1500	0.1	10
APCW4532-221P2T	220	50	100	1300	0.1	10
APCW4532-331P2T	330	50	100	1100	0.11	10
APCW4532-601P2T	600	50	100	1000	0.12	10
APCW4532-701P2T	700	50	100	1500	0.12	10
APCW4532-801P2T	800	50	100	900	0.16	10

## ELECTRICAL CHARACTERISTICS

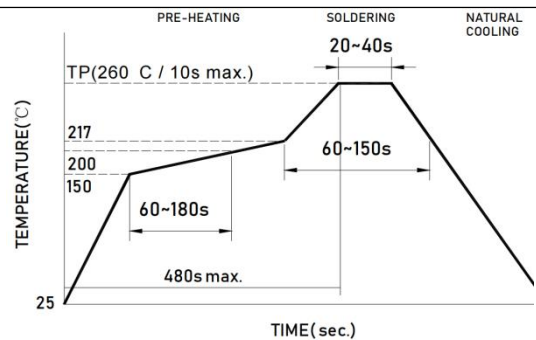
### ● APCW4532 Series

Part Number	Impedance	Rated Voltage	Test Freq.	Heat Rating Current Max.	DC Resistance Max.	Insulation Resistance Min.
Units	$\Omega$	Volts	MHz	mA	$\Omega$	M $\Omega$
Symbol	Z	VDC	Freq.	I <sub>rms</sub>	DCR	IR
APCW4532-901P2T	900	50	100	1000	0.17	10
APCW4532-102P2T	1000	50	100	800	0.18	10
APCW4532-142P2T	1400	50	100	700	0.2	10

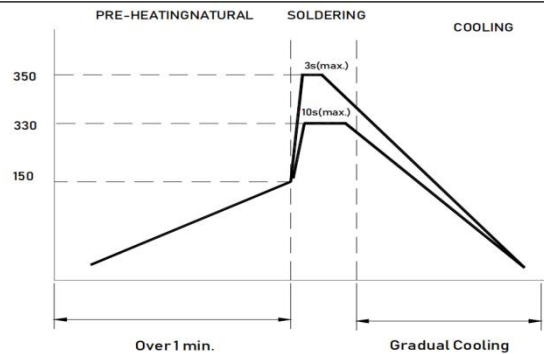
- Rating DC current: Temperature rise( $\Delta T$ ) is 40 °C approximately at I<sub>rms</sub>.

## SOLDERING CONDITIONS

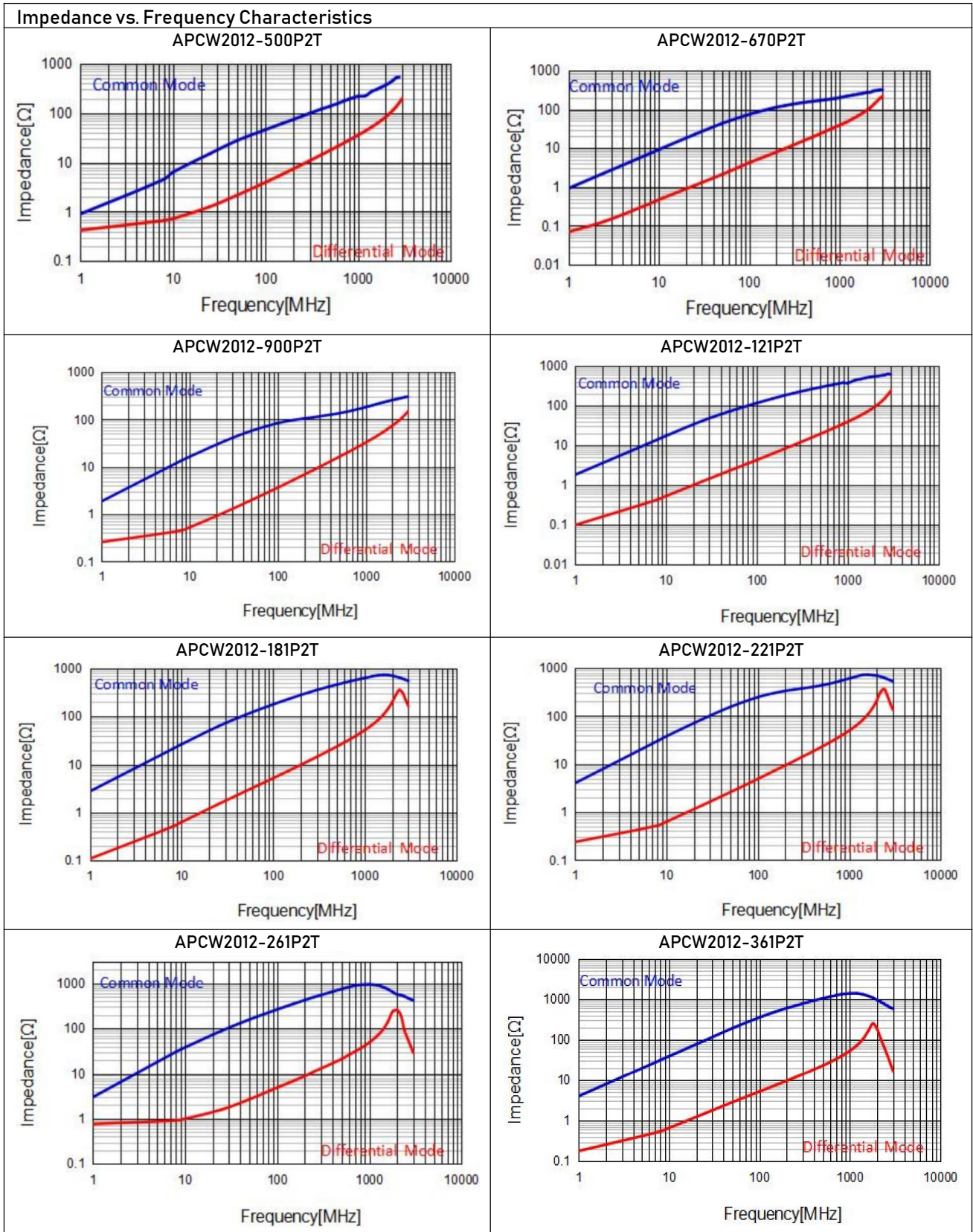
- Preheat circuit and products to 150 °C
- 260 °C tip temperature (max)
- Reflow times: no more than 2 times
- Solder paste thickness: the best 0.08mm is, but max is 0.1mm



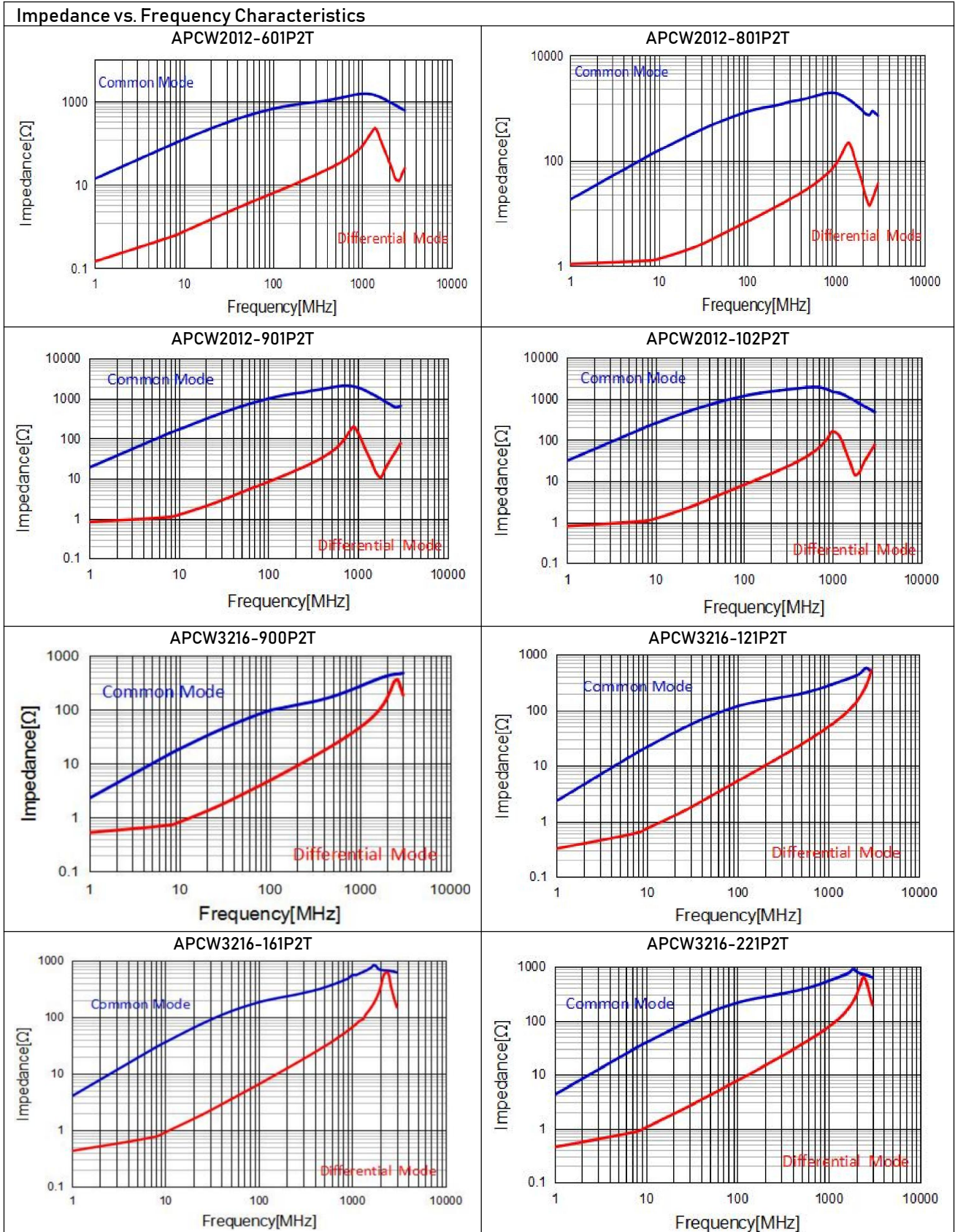
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- Limit soldering time to 3 sec.



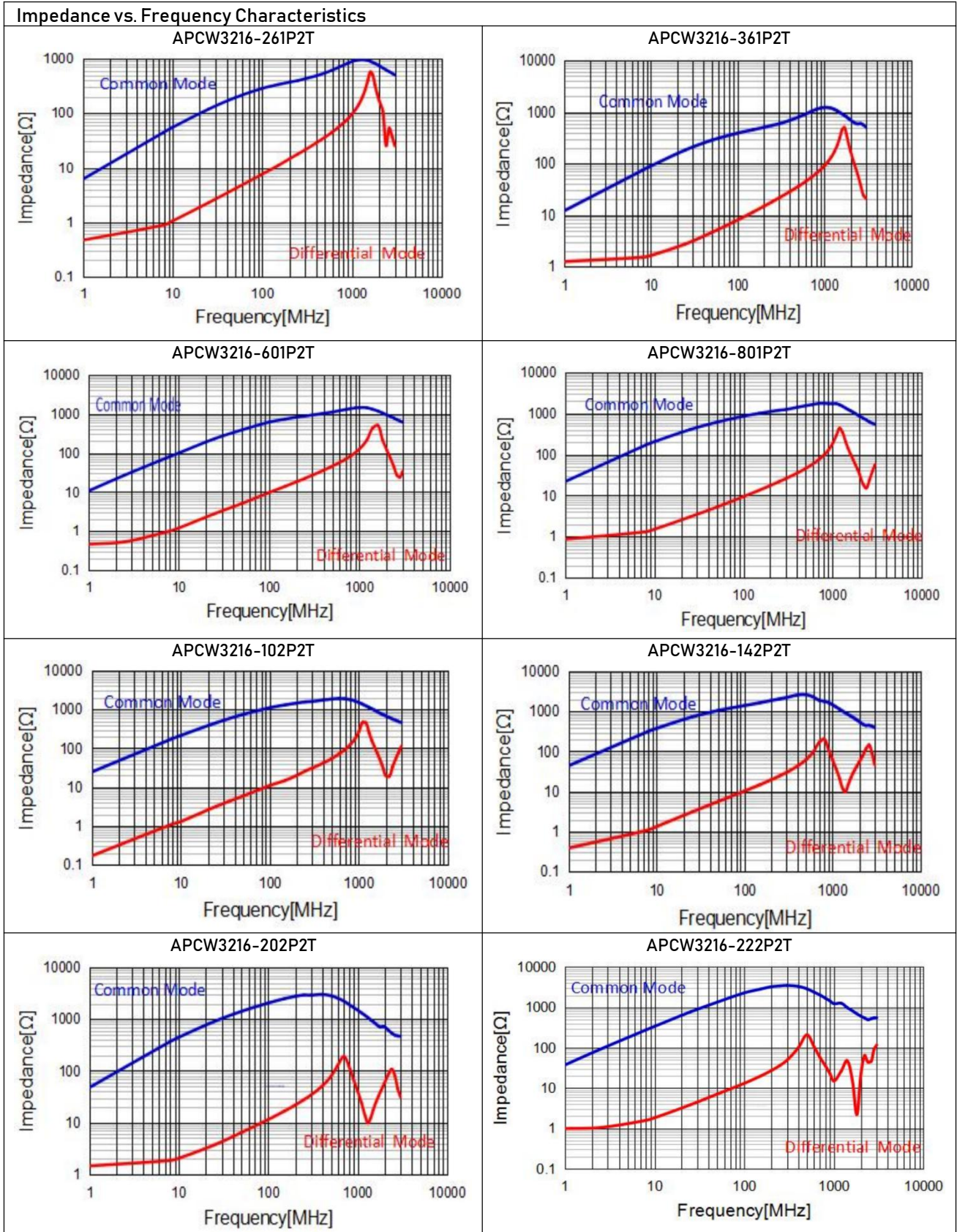
TYPICAL ELECTRICAL CHARACTERISTICS



TYPICAL ELECTRICAL CHARACTERISTICS

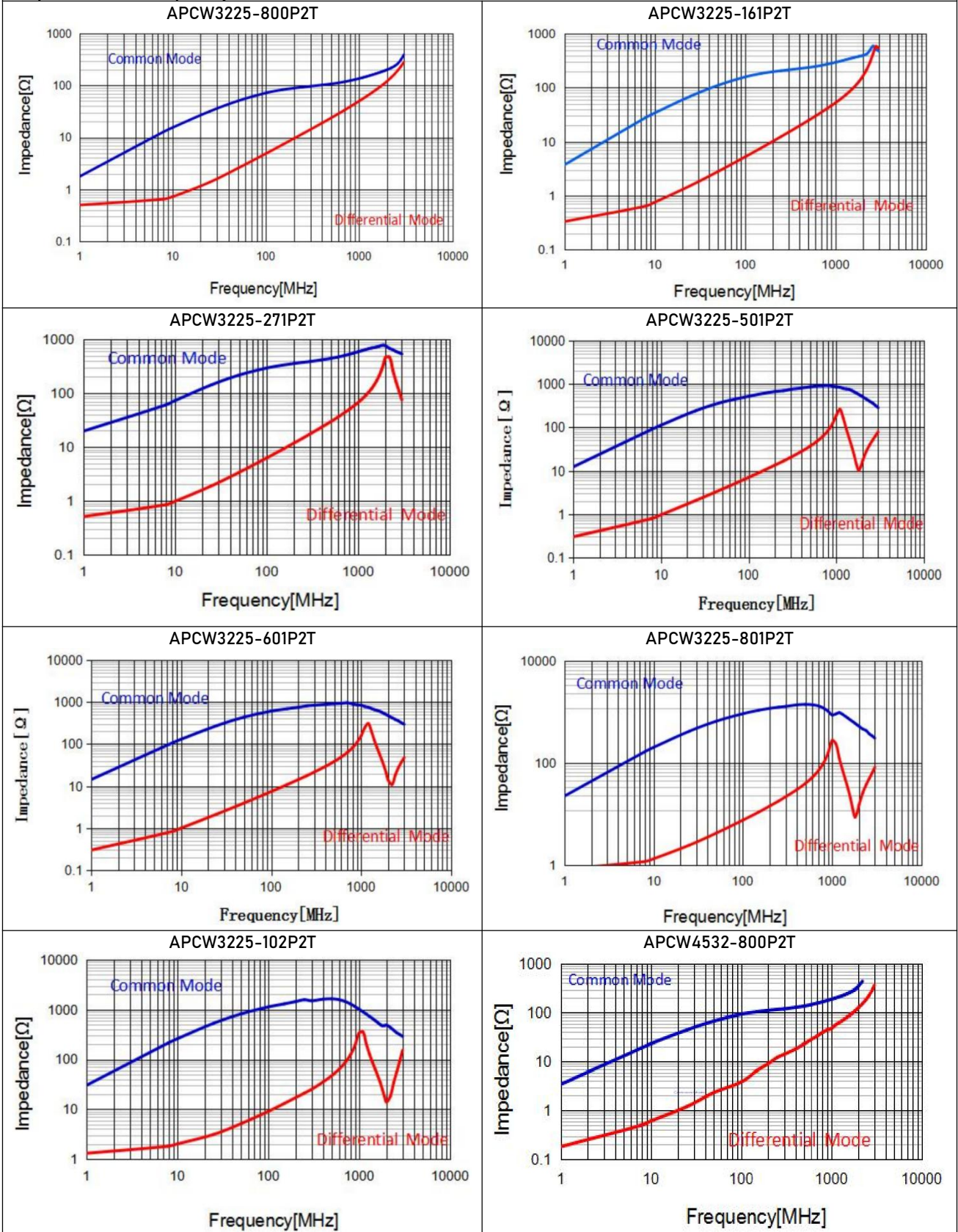


TYPICAL ELECTRICAL CHARACTERISTICS



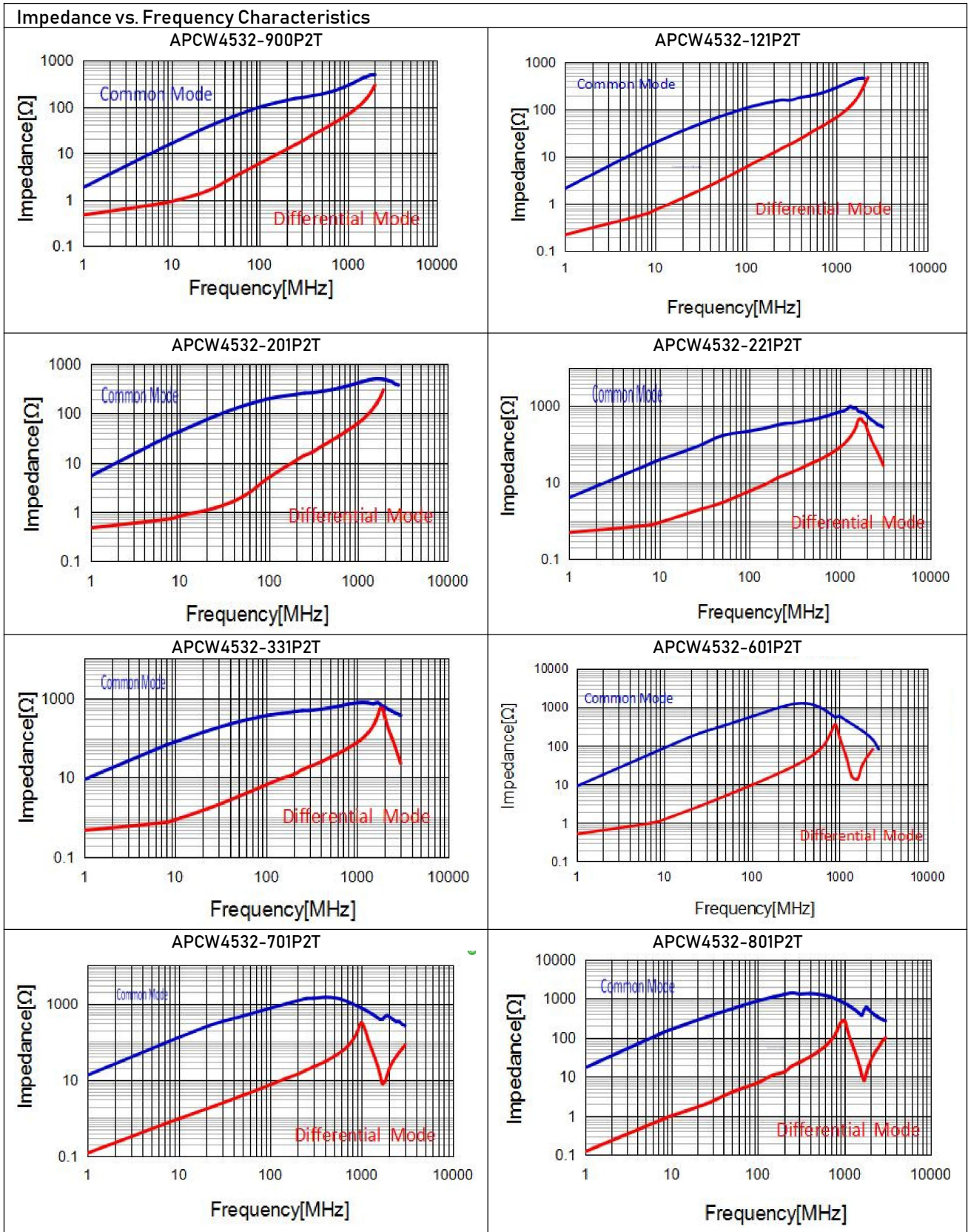
TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency Characteristics



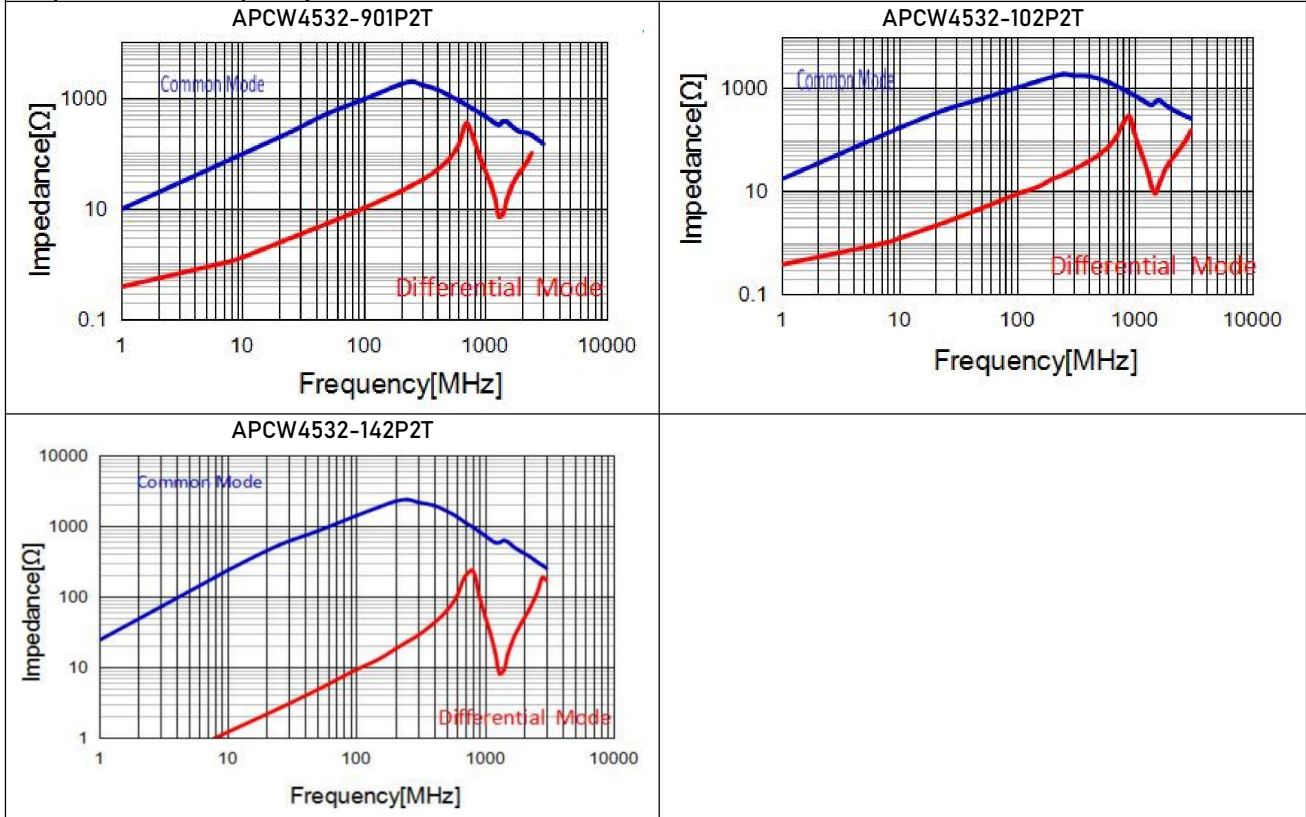


TYPICAL ELECTRICAL CHARACTERISTICS



## TYPICAL ELECTRICAL CHARACTERISTICS

Impedance vs. Frequency Characteristics

**Note:**

This series product is not applies in automotive or related products. Otherwise, we will shall not bear than the resulting all the problems of quality and responsibility.

Please be sure to request approval specifications that provide further details of the products. Kindly not that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without APV approval.

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