

COMPONENT SPECIFICATION

SERIES NAME Interference Suppression Capacitors
Class X2- THB Grade (UL and ENEC Approved)
SERIES CODE 151



GIVEN BY: DEKI ELECTRONICS LTD

DEKI ELECTRONICS LTD

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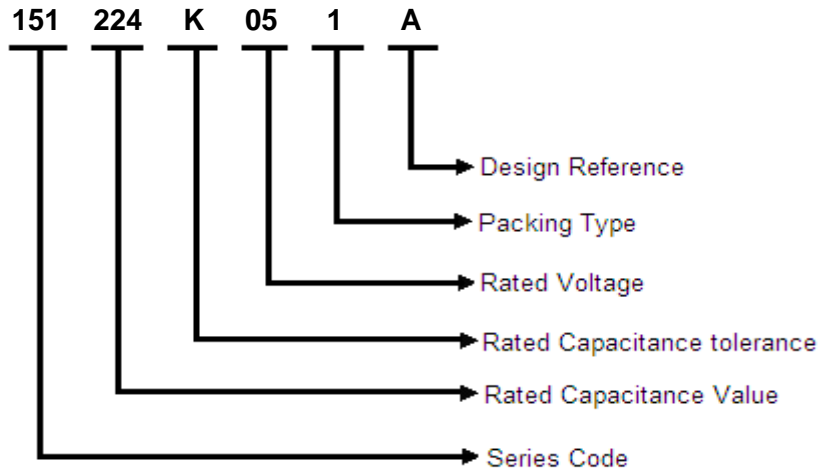
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Interference Suppression Capacitors

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Part Number Description



Rated Capacitance

Three-digit (224) indicate rated capacitance in Pico Farad (First two digits indicate value & third digit indicates number of zeroes to be suffixed to first two digits).

For example:

103 = 10 × 10 ³	= 10000 pF	= 10 nF	= 0.01 μF
104 = 10 × 10 ⁴	= 100000 pF	= 100 nF	= 0.1 μF
105 = 10 × 10 ⁵	= 1000000 pF	= 1000 nF	= 1 μF
106 = 10 × 10 ⁶	= 10000000 pF	= 10000 nF	= 10 μF

Capacitance Tolerance

In 3rd group of the part number-

F = ±1%, G = ±2%, H = ±2.5%, I = ±3.5%, J = ±5%, K = ±10%, L = ±15%, M = ±20%, N = ±40%

Rated Voltage

In 4th group of the part number, one numeric digit and one letter (Ex.-2A) indicate DC voltage rating while two numeric digits (Ex.03) indicate AC voltage rating.

Rated Voltage Codification

For DC Rated Voltage													
A		B		C		D		E		F		G	
1A	10	1B	12.5	1C	16	1D	20	1E	25	1F	30	1G	40
2A	100	2B	125	2C	160	2D	200	2E	250	2F	300	2G	400
3A	1000	3B	1250	3C	1600	3D	2000	3E	2500	3F	3000	3G	4000
H		I		J		K		L		M		N	
1H	50	1I	45	1J	63	1K	70	1L	80	1M	85	1N	90
2H	500	2I	450	2J	630	2K	700	2L	800	2M	850	2N	900
3H	5000	3I	4500	3J	6300	3K	7000	3L	8000	3M	8500	3N	9000
O		P		Q		R		S		U		V	
1O	110	1P	120	1Q	1U	1U	15	1S	17	1U	130	1V	60
2O	1100	2P	1200	2Q	2U	2U	150	2S	170	2U	1300	2V	600
3O	11000	3P	12000	3Q	3U	3U	1500	3S	1700	3U	13000	3V	6000
For AC Rated Voltage													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
190	250	275	305	310	440	500	600	700	63	230	330	400	450
VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC

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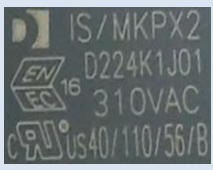
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Packing Type

- 1: Bulk packing (original pitch)
- 2: Bulk packing (after forming & cutting)
- 3: Ammo packing (after forming & taping)
- 4: Bulk packing (after forming in original pitch without cut)
- 5: Bulk packing (after formed & without cut)
- 6: Ammo packing (Straight lead)
- 7: Bulk packing (Straight lead cut)
- 8: Reel packing (Straight lead)

Reference Data

Capacitance	0.01µF to 10µF
Capacitance tolerance	±10%
Rated AC voltage at 50/60 Hz	310Vac
Climatic testing class according to IEC 60068-1	40/110/56/B
Maximum application temperature	110°C
Rated temperature	85°C
Reference standards	IEC 60384-14
Dielectric	Polypropylene
Electrodes	Metallized
Construction	Mono
Encapsulation	Encased in flame retardant box filled with resin
Leads	Tinned wire



Marking on capacitor body	Example →	
	Trademark, Sub-class (X2), rated cap. (224), cap. tolerance (K), traceability code (1J01) rated voltage (310VAC), climatic category (40/110/56), passive flammability category (B) & approvals	

Compatibility to RoHS



* Traceability code (4 alphanumeric digits) contains the following information- 1 (Year-2021), J (Month-October), 01 (Serial number of the lot for that particular month- First lot).

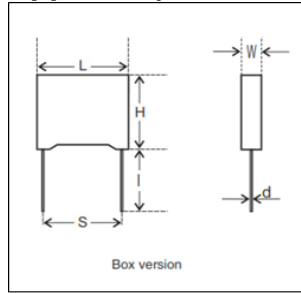
*This series is designed to use in “Across the line” applications.

Approval	Symbol	Capacitor Class	Rated Voltage	Capacitance	Certificate Number
UL 60384-14		X2	310 Vac	0.01 µF ~ 10 µF	E519274
EN 60384-14		X2	310 Vac	0.01 µF ~ 10 µF	ENEC16/23/02004

Dimensions Description

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Rated Capacitance (μF)	Dimensions (mm)					l	Item Code
	L (± 0.5)	H (± 0.5)	W (± 0.5)	S (± 0.75)	d (± 0.05)		
0.047	13	13	7	10	0.6	15 Min.	151 473 K 05 1 A
0.068	18	12	6	15	0.8	15 Min.	151 683 K 05 1 A
0.1	18	12	6	15	0.8	15 Min.	151 104 K 05 1 A
0.15	18	13.5	7.5	15	0.8	15 Min.	151 154 K 05 1 A
0.2	18.0	14.5	8.5	15.0	0.8	15 Min.	151 204 K 05 1 A
0.22	18	14.5	8.5	15	0.8	15 Min.	151 224 K 05 1 A
0.27	18	16	10	15	0.8	15 Min.	151 274 K 05 1 A
0.33	18	16	10	15	0.8	15 Min.	151 334 K 05 1 B
0.39	18	18	10	15	0.8	15 Min.	151 394 K 05 1 B
0.41	18	19	11	15	0.8	15 Min.	151 414 K 05 1 B
0.47	18	19	11	15	0.8	15 Min.	151 474 K 05 1 B
0.22	26.5	15	6	22.5	0.8	15 Min.	151 224 K 05 1 C
0.22	26.5	16.5	7	22.5	0.8	15 Min.	151 224 K 05 1 B
0.22	18.0	13.5	7.5	15.0	0.8	15 Min.	151 224 K 05 1 D
0.33	26.5	16.5	7	22.5	0.8	15 Min.	151 334 K 05 1 A
0.39	26.5	17	8.5	22.5	0.8	15 Min.	151 394 K 05 1 A
0.41	26.5	17	8.5	22.5	0.8	15 Min.	151 414 K 05 1 A
0.47	26.5	17	8.5	22.5	0.8	15 Min.	151 474 K 05 1 A
0.47	26.5	18.5	10	22.5	0.8	15 Min.	151 474 K 05 1 B
0.56	26.5	18.5	10	22.5	0.8	15 Min.	151 564 K 05 1 A
0.68	26.5	19	10	22.5	0.8	15 Min.	151 684 K 05 1 A
0.82	26.5	20	11	22.5	0.8	15 Min.	151 824 K 05 1 A
1	26.5	18.5	10	22.5	0.8	15 Min.	151 105 K 05 1 D
1	26.5	22	12	22.5	0.8	15 Min.	151 105 K 05 1 B
1	26.5	22	12	22.5	0.8	15 Min.	151 105 M 05 1 D
1	32	20	11	27.5	0.8	15 Min.	151 105 K 05 1 A
1.2	32	22.5	13	27.5	0.8	15 Min.	151 125 K 05 1 A
1.5	32	22.5	13	27.5	0.8	15 Min.	151 155 K 05 1 A
1.8	32	25	14	27.5	0.8	15 Min.	151 185 K 05 1 A
2.2	32	28	14	27.5	0.8	15 Min.	151 225 K 05 1 A
2.2	32	28	14	27.5	0.8	15 Min.	151 225 M 05 1 A
3.3	32	30	18	27.5	0.8	15 Min.	151 335 K 05 1 B

Specific Data

Description	Value	
Maximum tangent of loss angle(Tan δ)	≤ 0.001 at 1 kHz	
Voltage proof test between leads	4.3 times of the rated voltage value DC for 2 second	
Voltage proof test between leads and case	2 times of rated voltage+1500VAC with a minimum 2000 VAC for 2 second	
Insulation Resistance (R_{IS})	$C_R \leq 0.33 \mu F$	$C_R > 0.33 \mu F$
(or) time constant $T = C_R \times R_{IS}$	$\geq 15000 M\Omega$	$\geq 5000 s$
at 25° C, relative humidity $\leq 70\%$		

Endurance Test

Loaded at 1.25 times of rated voltage at 110°C for 1000 hours with once per hour voltage increased to 1000 Vrms for 0.1 second. These voltages shall be applied to each capacitor individually through a resistor of $47\Omega \pm 5\%$.

After The Test

$\Delta C/C$: $\leq 10\%$ of initial value.
Increase of Tan δ : ≤ 0.008 at 10 kHz for $C_R \leq 1.0\mu F$; ≤ 0.005 at 1 kHz for $C_R > 1.0\mu F$;
Insulation resistance : $\geq 50\%$ of the value mentioned in specific data.

THB Test

Loaded at 240VAC at 85°C temperature with 85% relative humidity for 1000 hours.

After The Test

$\Delta C/C$: $\leq 10\%$ of initial value.
Increase of Tan δ : ≤ 0.008 at 1 kHz
Insulation resistance : $\geq 50\%$ of the value mentioned in specific data

Storage Conditions

Avoid storing the capacitors in places where the environmental conditions differ from the following:

Storage time: ≤ 24 months from the date marked on the label glued to the package.

- Temperature: -40 to 80°C
- Humidity:
 - Average per year: $\leq 70\%$
 - For 30 full days randomly distributed throughout the year: $\leq 85\%$
 - Dew: absent

After a longer period of storage or use, the tolerance can increase; but, according to standard specification, it may never exceed twice the value measured at the time of delivery.

Disclaimer

All our capacitors are designed, manufactured and tested to specifications. We strictly adhere to standards in procurement of materials, in the laid down manufacturing processes and consistently apply stringent process controls and testing parameters. This ensures that our capacitors always perform to the offered specifications.

Appropriateness of use in a specific circuit and fitness to a particular application however needs to be verified and its reliability through expected lifetime is required to be validated by the customer. Deki's responsibility is limited to ensuring that the capacitor performs as claimed in the specification/ data sheets provided by Deki. Deki specifically disclaims any implied warranties of fitness for any particular purpose. Liability, in any case is limited to the price paid for the capacitors.