ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	MOV-07D561K
Manufacturer:	Bourns Inc.
Package:	Disc 7mm
Availability:	Please confirm with sales

Product Page:

https://antrexco.com/product/details/bourns-inc/mov-07d561k.html

Request a Quote:

Submit RFQ for this part

Scan for product page

Contact Information

Email: info@antrexco.com

WhatsApp: +86-186-8066-5326

Website: https://antrexco.com

Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Features

- High voltage and current rating
- Straight and kinked lead styles available
- Bidirectional
- Surge protection
- Fast response time
- RoHS compliant*
- Agency listing: c UL us

Additional Information

Click these links for more information:

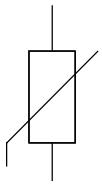
PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

MOV-07DxxxK Series – Metal Oxide Varistor

General Information

The MOV-07DxxxK Series of 7 mm radial leaded varistor devices protects against overvoltage transients such as lightning, power contact and power induction. The metal oxide varistors offer a choice of varistor voltages from 18 V to 820 V and V_{rms} voltages from 11 V to 510 V.

The devices have a high current handling, high energy absorption capability and fast response times to protect against transient faults up to rated limits.



Industry Standard Compliance

Standard	UL 1449
File Number	E313168

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	T_{OPR}	-40	25	+105	˚C
Storage Temperature	T_{STG}	-40	25	+125	˚C
Rated Wattage	P_w			0.25	Watt
Varistor Voltage Temperature Coefficient	V_{TC}	0		0.05	% / ˚C
Response Time	T_r		10	25	ns
Varistor Voltage Tolerance	V_{tol}	-10	0	10	%

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part No.	Max. Continuous Voltage (V)		Voltage @ 1 mA DC (V)			Voltage @ Class Current (8/20 µs)		Max. Peak Current (8/20 µs)	Max. Energy (J)	Typ. Cap. (pF)
	r.m.s.	d.c.	Min.	Nom.	Max.	Class Current (A)	Max. Clamping Voltage (V)	One Time	8/20 µs	1 kHz
MOV-07D180K	11	14	16	18	20	2.5	36	250	0.9	3840
MOV-07D220K	14	18	20	22	24	2.5	43	250	1.1	3360
MOV-07D270K	17	22	24	27	30	2.5	53	250	1.4	3120
MOV-07D330K	20	26	30	33	36	2.5	65	250	1.7	2640
MOV-07D390K	25	31	35	39	43	2.5	77	250	2.1	2400
MOV-07D470K	30	38	42	47	52	2.5	93	250	2.5	1680
MOV-07D560K	35	45	50	56	62	2.5	110	250	3.1	1440
MOV-07D680K	40	56	61	68	75	2.5	135	250	3.6	1200
MOV-07D820K	50	65	74	82	90	10	135	1200	5.5	720
MOV-07D101K	60	85	90	100	110	10	165	1200	6.5	600
MOV-07D121K	75	100	108	120	132	10	200	1200	7.8	504
MOV-07D151K	95	125	135	150	165	10	250	1200	9.7	396
MOV-07D181K	115	150	162	180	198	10	300	1200	11.7	336
MOV-07D201K	130	170	185	200	225	10	340	1200	13	300
MOV-07D221K	140	180	198	220	242	10	360	1200	14	276
MOV-07D241K	150	200	216	240	264	10	395	1200	15	252
MOV-07D271K	175	225	243	270	297	10	455	1200	18	222
MOV-07D301K	190	250	270	300	330	10	500	1200	20	198
MOV-07D331K	210	275	297	330	363	10	550	1200	23	180
MOV-07D361K	230	300	324	360	396	10	595	1200	25	168
MOV-07D391K	250	320	351	390	429	10	650	1200	25	156
MOV-07D431K	275	350	387	430	473	10	710	1200	28	138
MOV-07D471K	300	385	423	470	517	10	775	1200	30	126
MOV-07D511K	320	415	459	510	561	10	845	1200	30	120
MOV-07D561K	350	460	504	560	616	10	925	1200	30	108
MOV-07D621K	385	505	558	620	682	10	1025	1200	33	96
MOV-07D681K	420	560	612	680	748	10	1120	1200	33	90
MOV-07D751K	460	620	675	750	825	10	1240	1200	38	84
MOV-07D781K	480	640	702	780	858	10	1290	1200	38	84
MOV-07D821K	510	675	738	820	902	10	1355	1200	40	72

WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Applications

- Power supplies
- Power systems
- Line voltage
- Telecom systems
- White goods / appliances

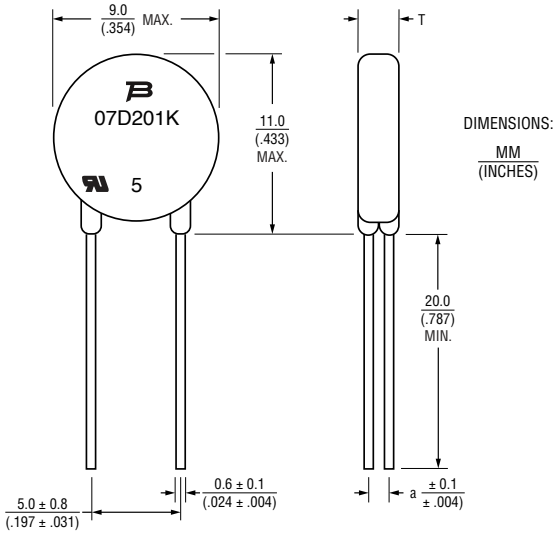
MOV-07DxxxK Series – Metal Oxide Varistor

BOURNS®

Product Dimensions

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.

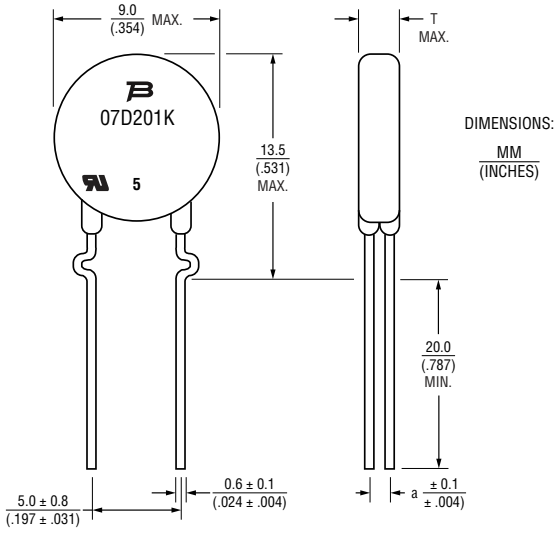
Straight Leads



Bourns Part Number	Dim T (Max.)	Dim a (Typ.)
MOV-07D180K	3.4 (.134)	1.4 (.055)
MOV-07D220K	3.5 (.138)	1.4 (.055)
MOV-07D270K	3.8 (.150)	1.5 (.059)
MOV-07D330K	3.4 (.134)	1.5 (.059)
MOV-07D390K	3.6 (.142)	1.7 (.067)
MOV-07D470K	3.8 (.150)	1.9 (.075)
MOV-07D560K	3.9 (.154)	2.1 (.083)
MOV-07D680K	4.0 (.157)	2.4 (.094)
MOV-07D820K	3.4 (.134)	1.4 (.055)
MOV-07D101K	3.6 (.142)	1.5 (.059)
MOV-07D121K	3.8 (.150)	1.5 (.059)
MOV-07D151K	4.0 (.157)	1.6 (.063)
MOV-07D181K	3.2 (.126)	1.7 (.067)
MOV-07D201K	3.4 (.134)	1.7 (.067)
MOV-07D221K	3.5 (.138)	1.8 (.071)

Bourns Part Number	Dim T (Max.)	Dim a (Typ.)
MOV-07D241K	3.6 (.142)	1.9 (.075)
MOV-07D271K	3.8 (.150)	2.0 (.079)
MOV-07D301K	4.0 (.157)	2.1 (.083)
MOV-07D331K	4.2 (.165)	2.2 (.087)
MOV-07D361K	4.4 (.173)	2.3 (.091)
MOV-07D391K	4.6 (.181)	2.5 (.098)
MOV-07D431K	4.8 (.189)	2.7 (.106)
MOV-07D471K	5.0 (.297)	2.9 (.114)
MOV-07D511K	5.1 (.201)	3.1 (.122)
MOV-07D561K	5.4 (.213)	3.3 (.130)
MOV-07D621K	5.8 (.228)	3.4 (.134)
MOV-07D681K	6.0 (.236)	3.6 (.142)
MOV-07D751K	6.2 (.244)	3.7 (.146)
MOV-07D781K	6.4 (.252)	3.8 (.150)
MOV-07D821K	6.8 (.268)	4.0 (.157)

Kinked Leads (Outward)



Bourns Part Number	Dim T (Max.)	Dim a (Typ.)
MOV-07D180KK	3.4 (.134)	1.4 (.055)
MOV-07D220KK	3.5 (.138)	1.4 (.055)
MOV-07D270KK	3.8 (.150)	1.5 (.059)
MOV-07D330KK	3.4 (.134)	1.5 (.059)
MOV-07D390KK	3.6 (.142)	1.7 (.067)
MOV-07D470KK	3.8 (.150)	1.9 (.075)
MOV-07D560KK	3.9 (.154)	2.1 (.083)
MOV-07D680KK	4.0 (.157)	2.4 (.094)
MOV-07D820KK	3.4 (.134)	1.4 (.055)
MOV-07D101KK	3.6 (.142)	1.5 (.059)
MOV-07D121KK	3.8 (.150)	1.5 (.059)
MOV-07D151KK	4.0 (.157)	1.6 (.063)
MOV-07D181KK	3.2 (.126)	1.7 (.067)
MOV-07D201KK	3.4 (.134)	1.7 (.067)
MOV-07D221KK	3.5 (.138)	1.8 (.071)

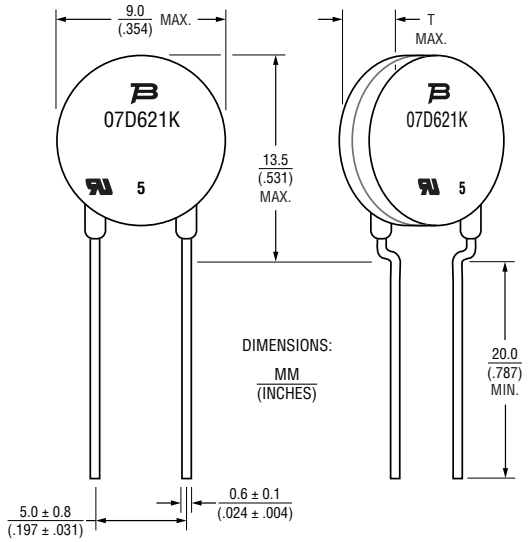
Bourns Part Number	Dim T (Max.)	Dim a (Typ.)
MOV-07D241KK	3.6 (.142)	1.9 (.075)
MOV-07D271KK	3.8 (.150)	2.0 (.079)
MOV-07D301KK	4.0 (.157)	2.1 (.083)
MOV-07D331KK	4.2 (.165)	2.2 (.087)
MOV-07D361KK	4.4 (.173)	2.3 (.091)
MOV-07D391KK	4.6 (.181)	2.5 (.098)
MOV-07D431KK	4.8 (.189)	2.7 (.106)
MOV-07D471KK	5.0 (.297)	2.9 (.114)
MOV-07D511KK	5.1 (.201)	3.1 (.122)
MOV-07D561KK	5.4 (.213)	3.3 (.130)
MOV-07D621KK	N/A See Kinked Leads (In-line) Configuration	
MOV-07D681KK		
MOV-07D751KK		
MOV-07D781KK		
MOV-07D821KK		

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

Product Dimensions (Continued)

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.

Kinked Leads (In-line)



Bourns Part Number	Dim T (Max.)
MOV-07D180KK	N/A See Kinked Leads (Outward) Configuration
MOV-07D220KK	
MOV-07D270KK	
MOV-07D330KK	
MOV-07D390KK	
MOV-07D470KK	
MOV-07D560KK	
MOV-07D680KK	
MOV-07D820KK	
MOV-07D101KK	
MOV-07D121KK	
MOV-07D151KK	
MOV-07D181KK	
MOV-07D201KK	
MOV-07D221KK	

Bourns Part Number	Dim T (Max.)
MOV-07D241KK	N/A See Kinked Leads (Outward) Configuration
MOV-07D271KK	
MOV-07D301KK	
MOV-07D331KK	
MOV-07D361KK	
MOV-07D391KK	
MOV-07D431KK	
MOV-07D471KK	
MOV-07D511KK	
MOV-07D561KK	
MOV-07D621KK	5.8 (.228)
MOV-07D681KK	6.0 (.236)
MOV-07D751KK	6.2 (.244)
MOV-07D781KK	6.4 (.252)
MOV-07D821KK	6.8 (.268)

Typical Part Marking

Bourns Part Number	Bourns Part Marking
MOV-07D180K	07D180K
MOV-07D220K	07D220K
MOV-07D270K	07D270K
MOV-07D330K	07D330K
MOV-07D390K	07D390K
MOV-07D470K	07D470K
MOV-07D560K	07D560K
MOV-07D680K	07D680K
MOV-07D820K	07D820K
MOV-07D101K	07D101K
MOV-07D121K	07D121K
MOV-07D151K	07D151K
MOV-07D181K	07D181K
MOV-07D201K	07D201K
MOV-07D221K	07D221K
MOV-07D241K	07D241K
MOV-07D271K	07D271K
MOV-07D301K	07D301K
MOV-07D331K	07D331K
MOV-07D361K	07D361K
MOV-07D391K	07D391K
MOV-07D431K	07D431K
MOV-07D471K	07D471K
MOV-07D511K	07D511K
MOV-07D561K	07D561K
MOV-07D621K	07D621K
MOV-07D681K	07D681K
MOV-07D751K	07D751K
MOV-07D781K	07D781K
MOV-07D821K	07D821K

NOTE: The "5" marking on MOV products is for traceability of production assembly for quality assurance compliance.

How to Order

MOV - 07D nn (n) K __ (TR)

Model Designator
MOV = Metal Oxide Varistor

Disc Diameter
07D = 7 mm

Nominal Varistor Voltage
See Electrical Characteristics Table

Multiplier of Voltage Digits
0 = No multiplier
1 = nn * 10^1

Varistor Voltage Tolerance
K = 10 %

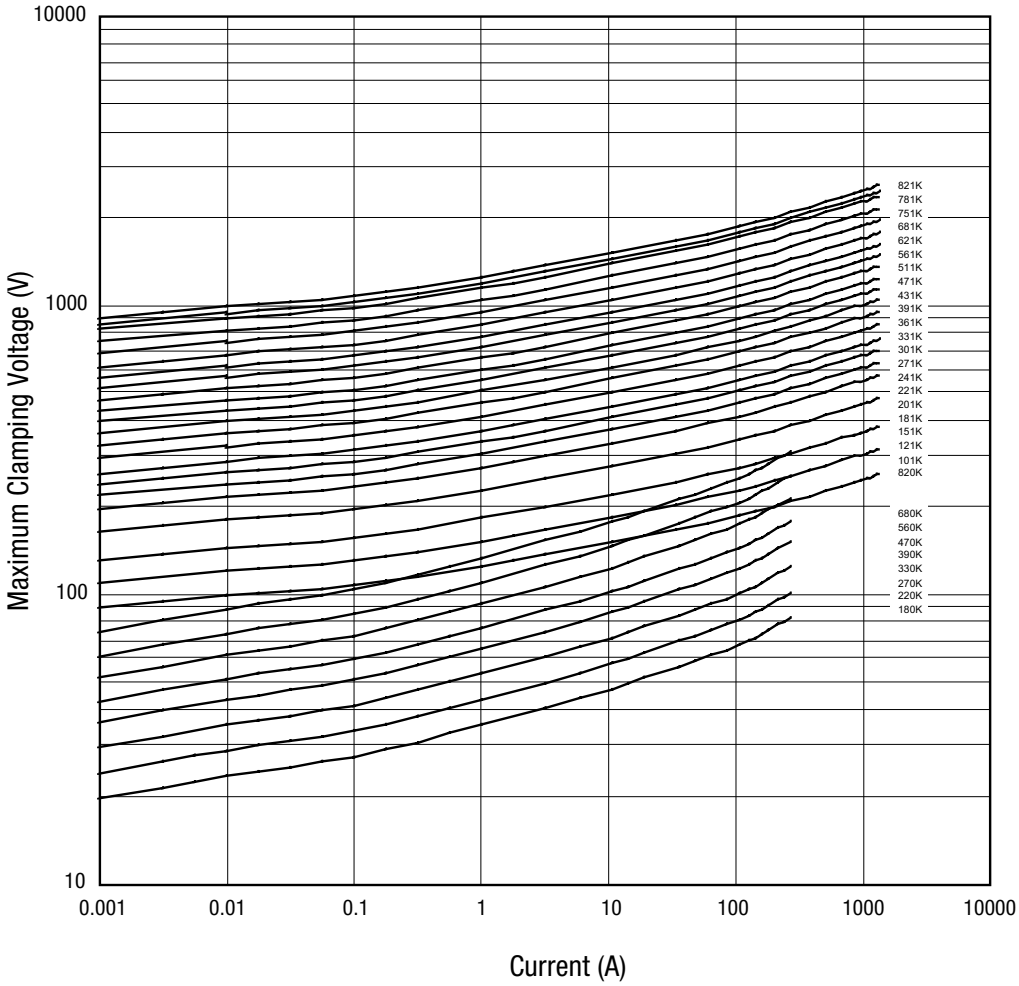
Lead Style
Blank = Straight Leads
K = Kinked Leads

Packaging
Blank = Bulk
TR = Tape & Reel

Examples:
MOV-07D270K = 27 V, Straight Leads, Bulk Pack
MOV-07D331KKTR = 330 V, Kinked Leads (Outward),Tape & Reel

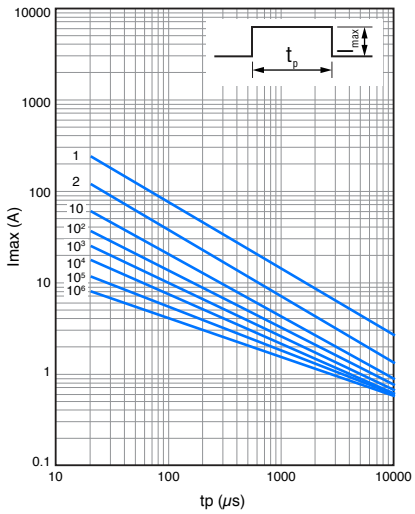
Performance Graphs

V-I Characteristics

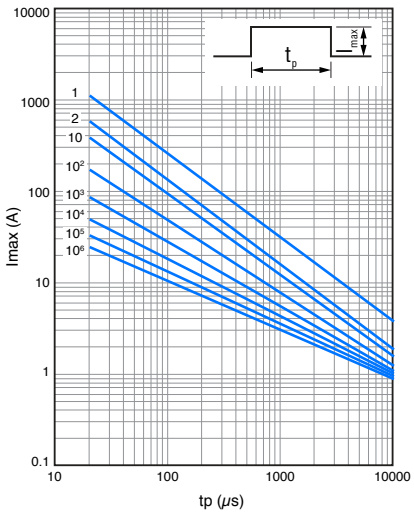


Pulse Rating Curves

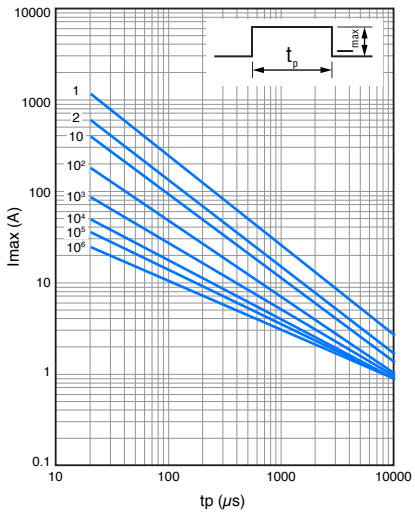
07D180K~680K



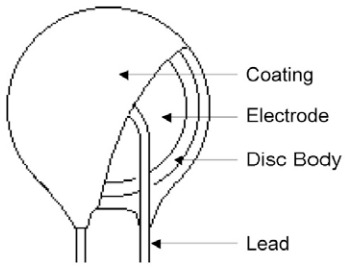
07D820K~471K



07D511K~821K



Internal Construction

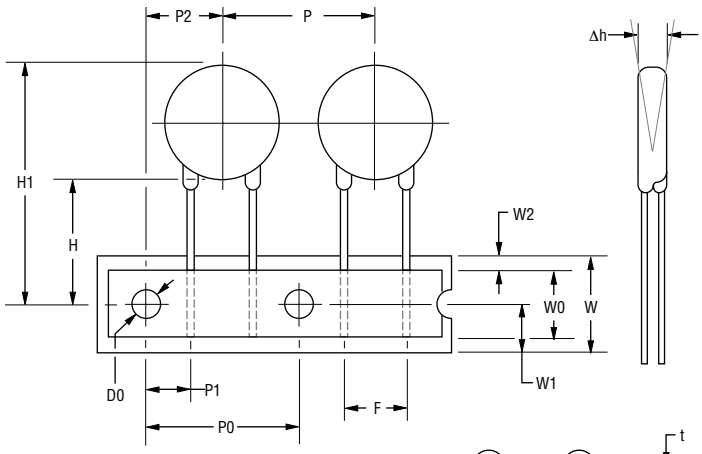


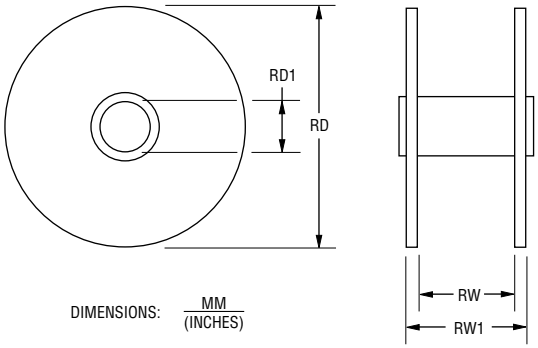
Environmental Specifications

Moisture Sensitivity Level 1
ESD Classification (HBM) ..... N/A

Packaging Information

TAPE & REEL - Straight Leads





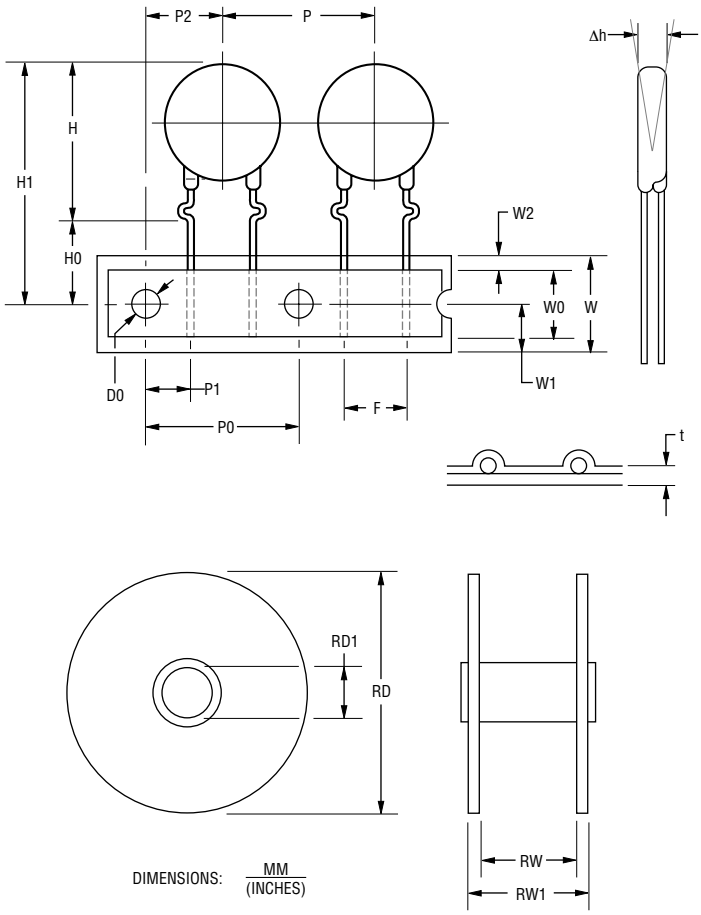
Item	Symbol	7 mm Disc
Reel Outside Diameter	RD	355 (13.98)
Reel Inner Diameter	RD1	30 (1.181)
Tape Width	RW	47 (18.50)
Reel Width	RW1	53 (20.87)
Pitch of Component	P	12.7 ± 1.0 (0.50 ± 0.04)
Feed Hole Pitch	P0	12.7 ± 0.2 (0.50 ± 0.008)
Feed Hole Center to Pitch	P1	3.85 ± 0.7 (0.15 ± 0.03)
Feed Hole Center to Component Center	P2	6.35 ± 0.7 (0.25 ± 0.03)
Lead to Lead Distance	F	5.00 ± 0.8 (0.20 ± 0.03)
Component Alignment	Δh	2.0 (0.79) max.
Tape Width	W	18.0 ± 0.5 (0.71 ± 0.02)
Hole Down Tape Width	W0	12.0 ± 0.8 (0.47 ± 0.03)
Hole Position	W1	9.0 ± 0.5 (0.35 ± 0.02)
Hole Down Tape Position	W2	3.0 (0.12) max.
Height From Center to Component Base	H	19.0 ± 1.0 (0.75 ± 0.04)
Component Height	H1	32.0 (1.26) max.
Feed Hole Diameter	D0	4.0 ± 0.2 (0.16 ± 0.08)
Total Tape Thickness	t	0.6 ± 0.3 (0.02 ± 0.01)
Quantity per Reel (07D180K – 07D391K)	-	2000
Quantity per Reel (07D431K – 07D561K)	-	1500
Quantity per Reel (07D621K – 07D821K)	-	1000

BOURNS®

Americas: Tel: +1 951-781-5500 • Email: americus@bourns.com
Mexico: Tel: +52-614-478-0400 • Email: mexicus@bourns.com
Asia: Tel: +886-2-2562-4117 • Email: asiacus@bourns.com
EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com
www.bourns.com

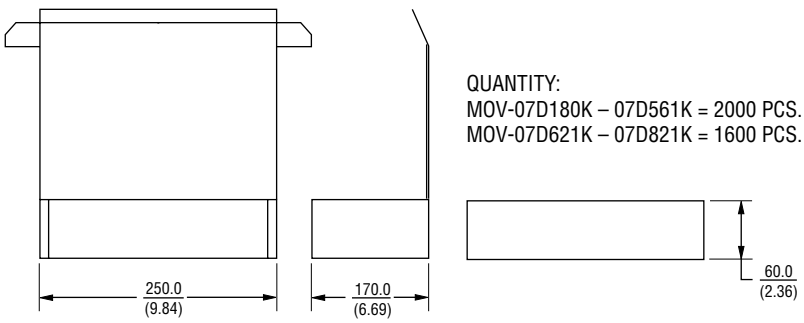
Packaging Information (Continued)

TAPE & REEL - Kinked Leads



Item	Symbol	7 mm Disc
Reel Outside Diameter	RD	355 (13.98)
Reel Inner Diameter	RD1	30 (1.181)
Tape Width	RW	47 (18.50)
Reel Width	RW1	53 (20.87)
Pitch of Component	P	12.7 ± 1.0 (0.50 ± 0.04)
Feed Hole Pitch	P0	12.7 ± 0.2 (0.50 ± 0.008)
Feed Hole Center to Pitch	P1	3.85 ± 0.7 (0.15 ± 0.03)
Feed Hole Center to Component Center	P2	6.35 ± 0.7 (0.25 ± 0.03)
Lead to Lead Distance	F	5.00 ± 0.8 (0.20 ± 0.03)
Component Alignment	Δh	2.0 (0.79) max.
Tape Width	W	18.0 ± 0.5 (0.71 ± 0.02)
Hole Down Tape Width	W0	12.0 ± 0.8 (0.47 ± 0.03)
Hole Position	W1	9.0 ± 0.5 (0.35 ± 0.02)
Hole Down Tape Position	W2	3.0 (0.12) max.
Height From Component Top to Kinked Base	H	13.5 (0.53) max.
Seating Plane Height	H0	16.0 ± 0.5 (0.63 ± 0.02)
Component Height	H1	32.0 (1.26) max.
Feed Hole Diameter	D0	4.0 ± 0.2 (0.16 ± 0.08)
Total Tape Thickness	t	0.6 ± 0.3 (0.02 ± 0.01)
Quantity per Reel (07D180KK – 07D391KK)	-	2000
Quantity per Reel (07D431KK – 07D561KK)	-	1500
Quantity per Reel (07D621KK – 07D821KK)	-	1000

BULK



QUANTITY:
MOV-07D180K – 07D561K = 2000 PCS. PER BOX
MOV-07D621K – 07D821K = 1600 PCS. PER BOX

REV. 07/25

Legal Disclaimer Notice

BOURNS®

This legal disclaimer applies to purchasers and users of Bourns® products manufactured by or on behalf of Bourns, Inc. and its affiliates (collectively, "Bourns").

Unless otherwise expressly indicated in writing, Bourns® products and data sheets relating thereto are subject to change without notice. Users should check for and obtain the latest relevant information and verify that such information is current and complete before placing orders for Bourns® products.

The characteristics and parameters of a Bourns® product set forth in its data sheet are based on laboratory conditions, and statements regarding the suitability of products for certain "typical" applications are based on Bourns' knowledge of typical requirements in generic applications. Bourns assumes that "typical" applications include failsafe/backup features to address critical risks to users and are designed to allow rework of Bourns® product to avoid scrap of a device solely due to malfunctioning Bourns® product. The characteristics and parameters of a Bourns® product in a user application may vary from the data sheet characteristics and parameters due to (i) the combination of the Bourns® product with other components in the user's application, or (ii) the environment of the user application itself. The characteristics and parameters of a Bourns® product also can and do vary in different applications and actual performance may vary over time. Thus, users should always verify the actual performance of the Bourns® product in their specific devices and applications and make their own independent judgments regarding the suitability of Bourns® product and the amount of additional test margin to design into their device or application to compensate for differences between laboratory and real-world conditions.

Unless Bourns has explicitly designated an individual Bourns® product as meeting the requirements of a particular industry standard (e.g., IATF 16949) or a particular qualification (e.g., UL listed or recognized), Bourns is not responsible for any failure of an individual Bourns® product to meet the requirements of such industry standard or particular qualification even if such industry standard or qualification is a "state of art". Users of Bourns® products are responsible for ensuring compliance with safety-related requirements and standards applicable to their devices or applications.

Bourns® products are not recommended, authorized or intended for use in applications where failure or malfunction may result in personal injury, death, or severe property or environmental damage, such as without limitation nuclear, life-critical medical and certain automotive and aviation applications. Except as set forth in the bullet points below or unless expressly and specifically approved in writing on a case-by-case basis by an authorized Bourns' representative, use of any Bourns® products in such unauthorized high-risk applications is at the user's sole risk.

- Bourns considers implantable/invasive devices and devices/procedures designed as life-supporting or life-sustaining by the U.S. Food and Drug Administration or equivalent organizations outside of the United States as "life-critical" medical applications. Bourns expressly identifies those Bourns® standard products that are suitable for use in typical medical applications that are not life-critical in its publication entitled "Bourns Medical Grade Component Guide."

- Bourns expressly identifies those Bourns® standard products that are suitable for use in typical automotive applications associated with any Automate Safety Integrity Level (ASIL) in its publication entitled "Bourns Automotive Grade Component Guide." Bourns' designation of Bourns® product as compliant with the AEC-Q standard does not by itself mean that Bourns has approved such product for use in an automotive application.

- Bourns expressly identifies Bourns® standard products that are suitable for use in the typical aviation applications/systems requiring System Design Assurance Level (RTCA DO-254 DAL) of C, D or E in its publication entitled "Bourns Civilian Aerospace/Aviation Grade Component Guide." Bourns does not test its products for compliance with United States Federal Aviation Administration standards or any other generally equivalent governmental organization standard applicable to products designed or manufactured for use in aviation applications. Use of Bourns® standard components in aviation applications associated with RTCA DO-254 DAL A or B without proper approval noted above shall be at the user's sole risk.

- Bourns will review and authorize on a case-by-case basis the use of Bourns® standard products which are at least AEC-Q compliant in space-related civil applications (rockets, satellites) with a negotiated cross-waiver and indemnity agreement.

The use and level of testing applicable to Bourns® custom products shall be negotiated on a case-by-case basis by Bourns and the user for which such Bourns® custom products are specially designed. Absent a written agreement between Bourns and the user regarding the use and level of such testing, the above provisions applicable to Bourns® standard products shall also apply to such Bourns® custom products.

Use of Bourns® products or Bourns' technology in military/defense applications must be reviewed with Bourns for compliance with applicable export control laws and embargoes. Users shall not sell, transfer, export or re-export (which includes transfers within a country) any Bourns® products or technology or technical data for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor shall they use Bourns® products or technology or technical data in any facility which engages in activities relating to such devices. Further, Bourns® products and Bourns' technology and technical data may not under any circumstance be exported or re-exported to countries subject to international sanctions or embargoes. Bourns® products and technology may not, without prior authorization from Bourns and/or the Government of a country where such product/technology is designed and/or manufactured, be resold, transferred, or re-exported (including within the same country) to any party not eligible to receive commodities, software, and technical data originating in such country.

To the maximum extent permitted by applicable law, Bourns disclaims (i) any and all liability for special, punitive, consequential, incidental or indirect damages or lost revenues or lost profits, and (ii) any and all implied warranties (those not based on parameters specified in Bourns' data sheets and/or specifications), including implied warranties of fitness for particular purpose, non-infringement and merchantability.

For your convenience, copies of this Legal Disclaimer Notice with German, Spanish, Japanese, Traditional Chinese and Simplified Chinese bilingual versions are available at:

Web Page: https://www.bourns.com/legal/disclaimers-terms-and-policies
PDF: https://www.bourns.com/docs/Legal/disclaimer.pdf