


# MATERIAL DECLARATION SHEET

**BOURNS®**

Material Number	PEC11H			
Product Line	Encoders			
Compliance Date	Since Inception			
RoHS Compliant	Yes	MSL	N/A	

No.	Construction Element (subpart)	Homogeneous Material	Material weight [g]	Homogeneous Materials/ Substances	CASRN If applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. [%]
1	Shaft 轴心	Aluminum Alloy	1.0	Aluminum	1344-28-1	96	23.77	17.38
				Magnesium	7439-96-5	1.333	0.33	
				Calcium	7440-70-2	1.333	0.33	
				Silicon	7440-21-3	1.333	0.33	
2	Rear Cover 后盖	PBT	0.167	Glass	65997-17-3	20	0.0118	2.85
				Poly(butylene terephthalate)	30965-26-5	65	3.84	
				Antimony Oxide	1309-64-4	4	0.236	
				Flame Retardant	68928-70-1	10	0.59	
				Additives		1	0.059	
3	Bracket 支架	SPCC-SB	0.45	Carbon	7440-44-0	1	0.159	7.83
				Manganese	7439-96-5	5	0.795	
				Phosphorus	7723-14-0	5	0.795	
				Iron	7439-89-6	88	13.99	
				Silicon	7440-21-3	1	0.159	
		Plating	0.049	Tin	7440-31-5	99.9	1.73	0.85
				Copper	7440-50-8	0.0004	0.0000069	
				Antimony	1309-64-4	0.0136	0.00024	
				Aluminum	1344-28-1	0.00034	0.00000589	
				Iron	7439-89-6	0.0034	0.0000589	

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4	Detent Spring 弹片	Bronze C5210 (Without plating)	0.031	Copper	7440-50-8	91.44	1.0	0.53
				Tin	7440-31-5	8.45	0.09	
				Phosphorus	7723-14-0	0.09	0.00098	
				Lead	7439-92-1	0.003	0.000033	
				Zinc	7440-66-6	0.004	0.000044	
				Iron	7439-89-6	0.002	0.000022	
5	Switch Dome 锅仔片	Bronze C5210	0.013	Copper	7440-50-8	91.44	0.42	0.22
				Tin	7440-31-5	8.45	0.039	
				Phosphorus	7723-14-0	0.09	0.00041	
				Lead	7439-92-1	0.003	0.000014	
				Zinc	7440-66-6	0.004	0.000018	
				Iron	7439-89-6	0.002	0.0000092	
		Plating	0.0015	Ag	7440-22-4	100	0.003	0.026
6	Bushing 轴套	Zinc Alloy	2.6	Zinc	7440-66-6	94.82	32.53	45.13
				Aluminium	1344-28-1	4.16	1.43	
				Magnesium	7439-95-4	0.1	0.0343	
				Copper	7440-50-8	0.9	0.31	
				Silicon	7440-21-3	0.02	0.007	

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7	Wiper Element & Terminales 本体	PBT	0.145	Glass	65997-17-3	20	1.03	2.5
				Poly(butylene terephthalate)	30965-26-5	65	3.33	
				Antimony Oxide	1309-64-4	4	0.21	
				Flame Retardant	68928-70-1	10	0.512	
				Additives		1	0.051	
		Bronze	0.11475	Copper	7440-50-8	91.44	3.71	1.9
				Tin	7440-31-5	8.45	0.343	
				Phosphorus	7723-14-0	0.09	0.0037	
				Lead	7439-92-1	0.003	0.000122	
				Zinc	7440-66-6	0.004	0.00016	
		Plating	0.01275	Ag	7440-22-4	100	0.45	0.22
8	C-Ring 卡簧	Steel Wire	0.016	Carbon	7440-44-0	1	0.0057	0.27
				Manganese	7439-96-5	5	0.0283	
				Phosphorus	7723-14-0	5	0.0283	
				Iron	7439-89-6	88	0.5	
				Silicon	7440-21-3	1	0.0057	

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9	Switch Insulation Adopter 绝缘片	PBT	0.007	Glass	65997-17-3	20	0.05	0.12
				Poly(butylene terephthalate)	30965-26-5	65	0.16	
				Antimony Oxide	1309-64-4	4	0.0099	
				Flame Retardant	68928-70-1	10	0.025	
				Additives		1	0.0025	
10	Rotor 回转座	PC	0.1	Polycarbonate	*****	100	3.5	1.73
		Brass C268	0.05	Copper	7440-50-8	61.5	1.0	0.86
				zinc	7440-66-6	35.5	0.63	
				Lead	7439-92-1	3	0.053	
Plating	0.005	Ag	7440-22-4	100	0.18	0.086		
11	Spring 弹簧	Steel Wire	0.018	Carbon	7440-44-0	1	0.0057	0.3
				Manganese	7439-96-5	5	0.0283	
				Phosphorus	7723-14-0	5	0.0283	
				Iron	7439-89-6	88	0.5	
				Silicon	7440-21-3	1	0.0057	
12	Lube	Polysiloxane	0.00056	Polysiloxane	9011-19-2	100	0.015	0.097

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13	Steel ball 钢珠	SUS304	0.98	Carbon	7440-44-0	0.06%	0.02	17.02
				Manganese	7439-96-5	2.2%	0.62	
				Silicon	7440-21-3	0.27%	0.08	
				Phosphorus	7723-14-0	0.03%	0.01	
				Sulfur	7704-34-9	0.31%	0.09	
				Chromium	7440-47-3	17.2%	4.87	
				Nickel	7440-02-0	8.2%	2.32	
				Copper	7440-50-8	2.2%	0.62	
				Iron	7439-89-6	69.53%	19.70	
		Total weight	5.76					

This Document was updated on: 2018/4/18

The weight was measured by model PEC11H series, with switch, axis length F25mm

### Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
  - a. **“Compliance Date”** is not the date supplier submits the MDS, but when the product was first compliant with RoHS.
  - b. **“This Document was updated on:”** is where we indicate when supplier submits the MDS. All previous MDS must be archived for traceability in the future.
  - c. Material weights for components less than 100mg (most Semiconductor products) should be listed in milligrams. This avoids all those zeros and round off issues.