

Material Data Sheet

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 Panasonic Electronic Devices Co.,Ltd.
 Circuit Components Business Unit
 Engineering & Quality Planning Group
 Environment Management Team
 Person in charge:Yasuo Katsuki

Product P/N	ERJ3R0F@@@V	Product Weight(mg)	2.294329
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Part Name	Material Name	Chemical Name	CASNo.	Weight of each chemical material in a part (mg)	Weight of a part(mg)	Rate of each chemical material in a part(%)	Rate of each chemical material in a product(wt%)	Rate of each part in a product(wt%)
substrate	Ceramics	Aluminum oxide: Al ₂ O ₃	1344-28-1	1.7388	1.8	96.6	78.453817	75.786369
		Silica: Silicon dioxide	7631-86-9	0.0378		2.1		1.647541
		Magnesium oxide: MgO	1309-48-4	0.018		1		0.784544
		Calcium oxide: CaO	1305-78-8	0.0054		0.3		0.235363
top terminal	Other special metals	Silver: Ag	7440-22-4	0.012827	0.01324	96.880663	0.577208	0.559205
		Palladium: Pd	7440-05-3	0.000173		1.306647		0.007541
	Glass	Lead(II) oxide: PbO	1317-36-8	0.00012		0.906345		0.005231
		Cupric oxide: CuO	1317-38-0	0.00008		0.60423		0.003487
bottom terminal	Other special metals	Silica: Silicon dioxide	7631-86-9	0.00004	0.01494	0.302115	0.651259	0.001744
		Silver: Ag	7440-22-4	0.014565		97.48996		0.634914
	Glass	Lead(II) oxide: PbO	1317-36-8	0.000225		1.506024		0.009807
		Silica: Silicon dioxide	7631-86-9	0.00015		1.004016		0.006538
Resistive element	Other special metals	Palladium: Pd	7440-05-3	0.008964	0.01228	72.996741	0.535279	0.390746
		Ruthenium(IV) oxide: RuO ₂	12036-10-1	0.001928		15.700326		0.084034
	Glass	Boron oxide: B ₂ O ₃	1303-86-2	0.000614		5		0.026762
		Silver: Ag	7440-22-4	0.000516		4.201955		0.022491
First protective coating	Glass	Manganese dioxide: MnO ₂	1313-13-9	0.000258	0.01336	2.100978	0.582438	0.011246
		Lead(II) oxide: PbO	1317-36-8	0.007345		54.977543		0.320268
		Silica: Silicon dioxide	7631-86-9	0.003421		25.606288		0.149107
		Boron oxide: B ₂ O ₃	1303-86-2	0.001724		12.904192		0.075142
Second protective coating	EP (Epoxy resin)	Zinc oxide: ZnO	1314-13-2	0.000562	0.0153	4.206587	0.666863	0.024496
		Chromium(III) oxide: Cr ₂ O ₃	1308-38-9	0.000308		2.30539		0.013425
	Ceramics	Epichlorohydrin, o-cresol, formaldehyde polymer	29690-82-2	0.010577		69		0.460135
		Silica: Silicon dioxide	7631-86-9	0.003519		23		0.153379
Marking 1	Other thermoplastics	Carbon black: C	1333-86-4	0.001224	0.00171	8	0.07462	0.053349
		Epichlorohydrin, o-cresol, formaldehyde polymer	29690-82-2	0.001042		60.935672		0.045504
	Ceramics	Silica: Silicon dioxide	7631-86-9	0.000522		30.526316		0.022752
		Titanium dioxide: TiO ₂	13463-67-7	0.000146		8.538012		0.006364
side terminal	EP (Epoxy resin)	Epoxy resin	25068-38-6	0.012735	0.0283	45	1.233478	0.555065
	Other special metals	Silver: Ag	7440-22-4	0.012735		45		0.555065
		Other thermoplastics	Carbon black: C	1333-86-4		0.00283		10
Middle terminal (Cu)	Copper alloys	Copper: Cu	7440-50-8	0.1842	0.1842	100	8.028492	8.028492
Middle terminal (Ni)	Nickel and Nickel alloys	Nickel: Ni	7440-02-0	0.124	0.124	100	5.404631	5.404631
Outer terminal (Sn)	Other nonferrous metals	Tin: Sn	7440-31-5	0.086999	0.086999	100	3.791915	3.791915