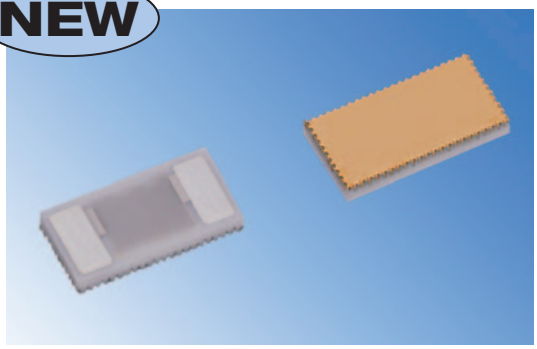
KOA SPEER ELECTRONICS, INC.

WTP

platinum thin film thermal sensors for wire bonding

EU RoHS COMPLIANT

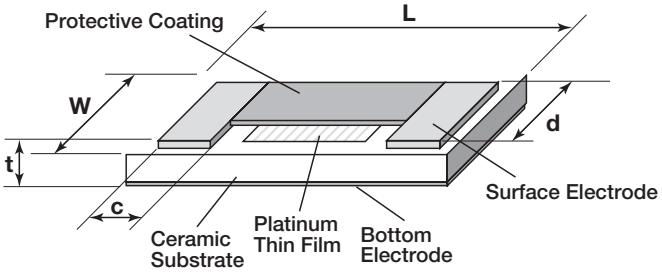
NEW



features

- Electrode structure suitable for Al wire bonding of thick lines (Max. ø300μ m)
- Soldering and sintering can be mounted by metallization on the back side
- Products meet EU RoHS requirements
- AEC-Q200 Qualified

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)					Weight (g) (1000pcs)
	L±0.2	W±0.2	c±0.1	d±0.1	t±0.1	
WTP3216 (1206)	0.126 (3.2)	0.063 (1.6)	0.024 (0.6)	0.055 (1.4)	0.017 (0.42)	8.6

ordering information

WTP	3216	G	S	TE	1K	Y	40
Type	Size	Terminal Bottom Material	Terminal Surface Material	Bottom	Nominal Resistance	Resistance Tolerance	T.C.R. Tolerance
	3216	G: Au	S: AgPt	TE: 4mm Pitch Plastic Embossed	1K: 1000Ω	Y: ±0.3%	40: ±40 x 10^{-6}/K

applications and ratings

Resistance (Ω at 0°C)	Resistance Tolerance (%)	Thermal Time Constant*1 (s)	T.C.R*2. (x 10^{-6}/K)	T.C.R. Tolerance (x 10^{-6}/K)	Operating Temperature Range (°C)	Specified Current*3. (mA)
1000	Y: ±0.3	8.3	3850	±40	-55~+200	2

*1 Thermal time constant is reference values, which are values of elements and vary with connecting or fixing methods.
*2 T.C.R. Measurement Temperature 0° C/+100°C.
*3` Recommended measuring current is 0.1 mA.
Please contact us regarding Thermal dissipation constant.

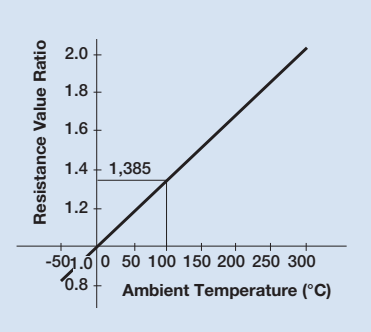
thermal sensors

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

07/14/26

environmental applications

Temperature Characteristics



Resistance temperature characteristic approximate formula

-55°C~0°C: $R_T = R_0 [1+C_1T+C_2T^2+C_3 (T-100)T^3]$

0°C~+400°C: $R_T = R_0 (1+C_1T+C_2T^2)$

R_T: Resistance value at T°C

R_0: Resistance value at 0°C

T: Ambient temperature (°C)

Constants C_1, C_2, C_3: $C_1 = 3.908 \times 10^{-3} °C^{-1}$

$C_2 = -5.775 \times 10^{-7} °C^{-2}$

$C_3 = -4.183 \times 10^{-12} °C^{-4}$

Resistance-Temperature Characteristics - 1000Ω at 0°C

Temperature (°C)	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-50	803.1	799.1	795.1	791.1	787.2	783.2	–	–	–	–
-40	842.7	838.7	834.8	830.8	826.9	822.9	818.9	815.0	811.0	807.0
-30	882.2	878.3	874.3	870.4	866.4	862.5	858.5	854.6	850.6	846.7
-20	921.6	917.7	913.7	909.8	905.9	901.9	898.0	894.0	890.1	886.2
-10	960.9	956.9	953.0	949.1	945.2	941.2	937.3	933.4	929.5	925.5
0	1000.0	996.1	992.2	988.3	984.4	980.4	976.5	972.6	968.7	964.8
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
0	1000.0	1003.9	1007.8	1011.7	1015.6	1019.5	1023.4	1027.3	1031.2	1035.1
10	1039.0	1042.9	1046.8	1050.7	1054.6	1058.5	1062.4	1066.3	1070.2	1074.0
20	1077.9	1081.8	1085.7	1089.6	1093.5	1097.3	1101.2	1105.1	1109.0	1112.9
30	1116.7	1120.6	1124.5	1128.3	1132.2	1136.1	1140.0	1143.8	1147.7	1151.5
40	1155.4	1159.3	1163.1	1167.0	1170.8	1174.7	1178.6	1182.4	1186.3	1190.1
50	1194.0	1197.8	1201.7	1205.5	1209.4	1213.2	1217.1	1220.9	1224.7	1228.6
60	1232.4	1236.3	1240.1	1243.9	1247.8	1251.6	1255.4	1259.3	1263.1	1266.9
70	1270.8	1274.6	1278.4	1282.2	1286.1	1289.9	1293.7	1297.5	1301.3	1305.2
80	1309.0	1312.8	1316.6	1320.4	1324.2	1328.0	1331.8	1335.7	1339.5	1343.3
90	1347.1	1350.9	1354.7	1358.5	1362.3	1366.1	1369.9	1373.7	1377.5	1381.3
100	1385.1	1388.8	1392.6	1396.4	1400.2	1404.0	1407.8	1411.6	1415.4	1419.1
110	1422.9	1426.7	1430.5	1434.3	1438.0	1441.8	1445.6	1449.4	1453.1	1456.9
120	1460.7	1464.4	1468.2	1472.0	1475.7	1479.5	1483.3	1487.0	1490.8	1494.6
130	1498.3	1502.1	1505.8	1509.6	1513.3	1517.1	1520.8	1524.6	1528.3	1532.1
140	1535.8	1539.6	1543.3	1547.1	1550.8	1554.6	1558.3	1562.0	1565.8	1569.5
150	1573.3	1577.0	1580.7	1584.5	1588.2	1591.9	1595.6	1599.4	1603.1	1606.8
160	1610.5	1614.3	1618.0	1621.7	1625.4	1629.1	1632.9	1636.6	1640.3	1644.0
170	1647.7	1651.4	1655.1	1658.9	1662.6	1666.3	1670.0	1673.7	1677.4	1681.1
180	1684.8	1688.5	1692.2	1695.9	1699.6	1703.3	1707.0	1710.7	1714.3	1718.0
190	1721.7	1725.4	1729.1	1732.8	1736.5	1740.2	1743.8	1747.5	1751.2	1754.9
200	1758.6	–	–	–	–	–	–	–	–	–

Note:
Desired temperature values are obtained by adding temperatures in the vertical and horizontal axes. When calculating a resistance value of 105°C, read the value in the column where 100°C in the vertical axis and 5°C in the horizontal axis cross. The value will be 1404.0 Ω.

Performance Characteristics

Parameter	Requirement Δ R± (%)		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	0°C
T.C.R.	Within specified tolerance	—	0°C/100°C
Rapid Change of Temperature	0.3	-0.014	-55°C (30 minutes) / +200°C (30 minutes), 1000 cycles
Moisture Resistance	0.3	0.021	85°C ± 2°C, 85% RH, 1000 hours; 2 mA continuous current
High Temperature Load Life	0.3	0.018	200°C,, 1000 hours, 2 mA continuous turning on electricity
High Temperature Exposure	0.3	0.014	200°C, 1000 hours
Low Temperature Exposure	0.3	0.008	-55°C, 1000 hours

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

12/11/25