

Selector Guide for Ag-Based Conductors

	6160	5434 (5)	QM14	QS171	5164N	6179T	6277	7484	4093
METALURGY	Ag	Ag	Ag	Ag/Pt (175:1)	Ag/Pt (200:1)	AgPdPt(20:1:0.3)	AgPd (6:1)	AgPd (3:1)	AgPdPt
TYPE OF BONDING	Mixed	Frit/Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
RESISTIVITY SPEC (m /sq @ m)	<2 @ 16	<10 @ 12	<2@16	<5 @ 10	<2 @ 15	<12 @ 15	<18 @ 15	15-30@12	20-55 @ 16
TYP RES (m /sq) Avg (Range)	1.3 (1.2-1.6)		1.5 (1.4-2.0)	3.9 (3.5-4.3)	1.5-1.7	5.5-6.4	11 (10-12)	23 (20-26)	37 (32-42)
LINE RESOLUTION (mm)	200	150	200	125	150	175	125	150	175
SOLDERABILITY (62Sn/36Pb/2Ag)	>95%	>90%	NR	>95%	>95%	>95%	>95%	>95%	>90%
150C 1000 HR ADHESION (newtons)	<15	>10	NR	>20	>20	>20	>25	>25	>20
Ag MIGRATION RESISTANCE (1)	2.5	NT	2.5	3	3	NT	5.5	6.2	>300
SOLDER LEACH RESISTANCE (2)	0.23	NT	0.23	0.35	0.35	0.6	0.47	0.58	1.25
WIRE BONDABILITY									
GOLD (3)	E 1&2 mil	NT	NT	G 1mil, E 2 mil	G 1mil, E 2 mil	NT	F 1 mil, G 2 mil	NR	NR
ALUMINIUM (10 mil) (3)	NR	NR	NR	NR	NT	NT	NR	E 10-15 mil	NT
RESISTOR COMPATIBILITY (4)	All (ex-17x1,19x1)	All (ex-17x1,19x1)	All (ex-17x1,19x1)	All (ex-17x1,19x1)	All (ex-17x1,19x1)	All	All	All	All
Thru Hole	Yes		Yes	Yes	Yes	Yes	Use 6277V	NR	NT
On Dielectric									
5704	ok w/ w/o solder		NR	ok w/ w/o solder	NR	NT	ok w/ w/o solder	ok w/ w/o solder	NT
QM42/QS420	ok w/o solder		ok w/o solder	ok w/o solder	NR	NR	ok w/o solder	ok w/ w/o solder	NT
QM44	ok w/ w/o solder		ok w/o solder	ok w/o solder	NR	NR	ok w/ w/o solder	ok w/ w/o solder	NT

NOTES:

NT= Not Tested NR = Not Recommended

(1) # of seconds to migrate thru a water drop from one 10 mil line to another across a 10 mil space.

(2) # of 10 second dips in 62Sn/36Pb/2Ag solder per micron of fired thickness.

3 E=Excellent. G=Good, F=Fair, P=Poor, NR=Not Recommended, NT= not Tested.

(4) "All" Resistors to include: S17, 1900, 00x0, 2000, QS87,1100, 7300, QM80, although some R and TCR off-sets may occur)

General: All conductors listed above are cadmium free

Encapsulant should be used where Ag migration and sulfur contamination are issues.

(5) Platable Silver Conductor

This Selector Guide consists of a small cross section of our more advanced Silver&Silver Bearing Conductors. For information on Silver Bearing Conductors not represented on this guide, contact your local DuPont Sales Representative.



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