

TANW

Al Bonding Wire for Power Devices

パワーデバイス用Alボンディングワイヤ

Characteristics

- Excellent corrosion resistance
- Excellent bondability

特徴

- 優れた耐湿性
- 良好なボンディング性

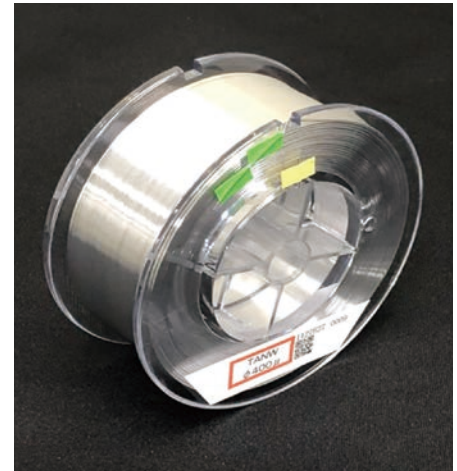
Cross Section after PCT

Time (hrs)	20	100	1000
TANW Soft-2			
Pure AL			

Cross Section after PCT

Wire Dia.: 300 μ m PCT: at 121°C, 100% RH, 2atm

Long Winding Length



TANW 400 μ m (#120K Spool)
Winding Length : 1,000 m

TABN

Al-1%Si Bonding Wire

Al-1%Siボンディングワイヤ

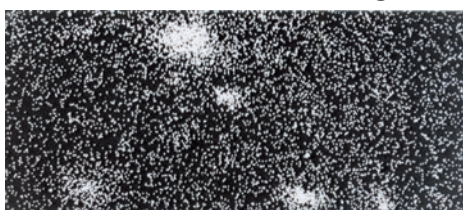
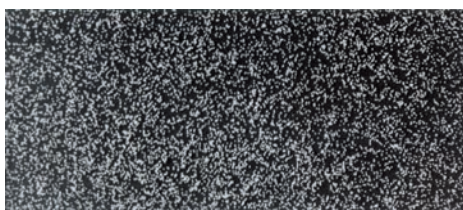
Characteristics

- Uniform distribution of Si
- Stable mechanical property.
- Good corrosion resistance under PCT.

特徴

- Siの分布が均一
- 安定した機械的特性
- 良好な耐腐食性

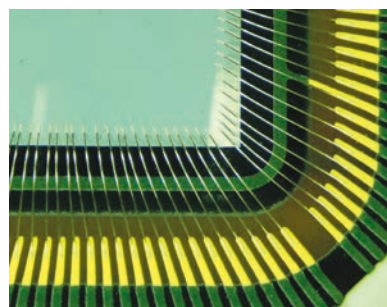
Si Distribution in Wire



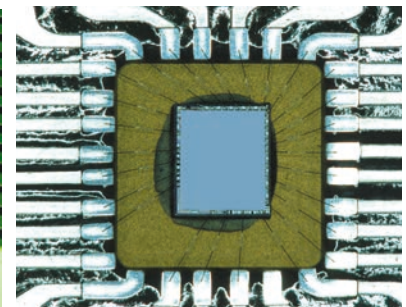
Loop Shape

COB

DIP (Ceramics)



TABN ϕ 30 μ m SR type



TABW ϕ 30 μ m SR type

TANW Data Sheet
General Properties

Wire Diameter (um)	100	125	150	175	200	250	300	350	380	400	450	500	ASTM F205-94	
Type	Soft1				Soft2									
Tolerance (um)	+/- 5.0				+/- 7.0									+/- 10.0
Breaking Load (gf)	Room Temp.													Tensile Tester Jaw Length = 100mm Production Guide 2012-3 10H
Elongation (%)	10.0-30.0													
maximum winding length (m)	1,000 / No.88B				800 / No.88			500 / No.88			300 / No.88			Spool type No.88 or No88B

Physical Property

Hardness (HV)	Wire	20 - 40				15 - 35								Vickers tester
Density (g/cm ³)	2.7												ASTM	
Resistivity (uΩcm) @ 20°C	2.7												Metals Data Book	
Fusing Current (A, Length=3mm,10sec)	3	5	7	9	12	19	28	37	44	49	62	76	For Reference (Calculated Value Based by Measurement)	
Electrical resistance (Ω, Length 10mm, Room Temp.)	31.2 - 38.1	20.3 - 23.9	14.3 - 16.4	10.6 - 11.9	8.2 - 9.0	5.2 - 5.8	3.6 - 4.0	2.7 - 2.9	2.3 - 2.5	2.1 - 2.2	1.6 - 1.8	1.3 - 1.4	Calculated Value	
Thermal Conductivity @ 20°C (W/m/K)	238												Metals Data Book	
Linear Expansion Coefficient (0-100°C) (ppm/K)	23.5												Metals Data Book	
Elastic Modulus (GPa)	30 - 50				10 - 40				5 - 20				Tensile Tester	
Melting Point (°C)	660												Metals Data Book	

TDS TANW rev.1 20201120

TABN Data Sheet
General Properties

Wire Diameter (um)	18	20	25	30	32	35	38	40	50	80	ASTM F205-94												
Tolerance (um)	+/- 1.0							+/- 2.0		+/- 3.0		25											
Weight (mg/200mm)	0.12-0.15	0.15-0.19	0.24-0.29	0.36-0.41	0.41-0.46	0.49-0.55	0.58-0.65	0.61-0.75	0.98-1.15	2.51-2.92													
Breaking Load (gf)	Room Temp.											Tensile Tester Jaw Length = 100mm Production Guide 2012-3 10H											
Elongation (%)	6.7 - 7.5				8.0 - 10.0			13.0 - 15.0		17.0 - 19.0			19.0 - 21.0		26.0 - 29.0		31.0 - 34.0		34.0 - 38.0		47.0 - 53.0		130 - 150
	0.5 - 4.5				0.5 - 5.0				0.5 - 6.0														

Physical Property

Hardness (HV)	Wire	20 - 40										Vickers tester
Density (g/cm ³)	27											Calculated Value
Resistivity (uΩcm) @ 20°C	3.1											4 terminal method
Fusing Current (A, Length=3mm,10sec)	0.3	0.4	0.6	0.8	0.9	1.1	1.3	1.4	2.2	5.8	Theoretical Value	
Electrical resistance (Ω, Length 10mm, Room Temp.)	0.95 - 1.19	0.78 - 0.95	0.51 - 0.60	0.36 - 0.41	0.32 - 0.36	0.27 - 0.30	0.23 - 0.25	0.19 - 0.24	0.13 - 0.15	0.05 - 0.06	Calculated Value	
Thermal Conductivity @ 20°C (W/m/K)	207											Theoretical Value
Linear Expansion Coefficient (0-100°C) (ppm/K)	23.6											TMA Method
Elastic Modulus (GPa)	15 - 40											Tensile Tester
Melting Point (°C)	654											Phase Diagram

TDS TABN rev.1 20201120