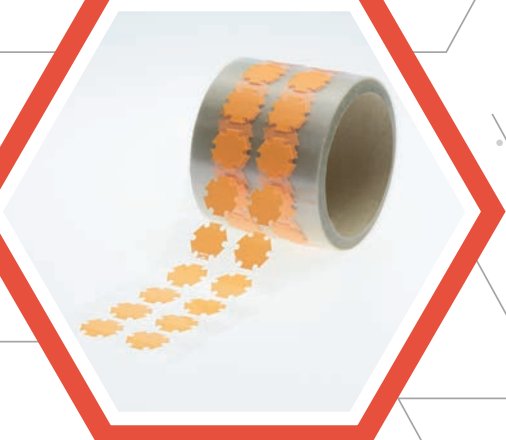
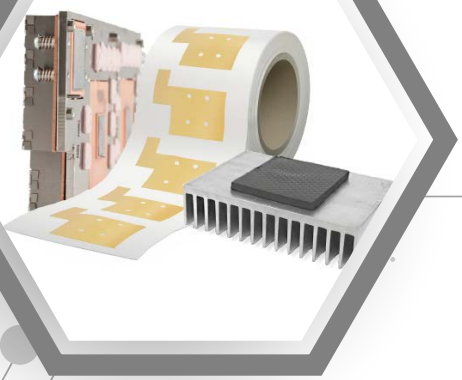
BOYD CORPORATION

Thermal Interface Materials





One Company, Many Solutions

www.boydcorp.com

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INTRODUCTION

Thermal Interface Materials (TIMs) are a critical portion to any effective thermal management system as they transfer heat between solid surfaces. Boyd provides a full array of thermal interface materials, from soft materials like gap fillers, phase change materials, and thermal grease to less compliant materials like thermal rubber pads, films, and thermally conductive hardware. Our broad portfolio contains many options that include electrical isolating properties, adhesives, reinforcements, carriers, and a variety of hardnesses to meet varying application requirements.

Boyd's engineering team is well-equipped to help you determine the best material to meet your project's needs. We leverage our relationships with suppliers and our TIM expertise, developed from decades of tests and projects, to pick the material best suited for your application.

Boyd's precision converting and assembly expertise can custom fabricate and pre-apply Thermal Interface Materials on Aavid's thermal management solutions like liquid cold plates or heat sinks. By providing complete, ready-to-install thermal management solutions, we help customers reduce assembly time and costs with a complete and integrated thermal solution.

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLERS

Transtherm® Thermally Conductive Gap Fillers are soft, malleable interface materials with high thermal conductivity. Gap fillers are ideal for applications with significant distances between the heat source and cooling surface, varying component heights, high tolerance stack up variability, and uneven or rough surfaces.

Gap filler materials are composed of either a silicone or silicone-free gel-like material, free of air gaps and pores similar to a foam. The conformability of gap fillers eliminates air between surfaces with higher conductivity materials to reduce thermal resistance. Since gap fillers are gel-like, volume stays constant and will thin and spread out with applied pressure.

Gap fillers are naturally tacky on at least one side, which improves handling during assembly. Softer materials tend to have higher tackiness.

Thermally conductive gap fillers fall into three groups: silicone gap fillers, silicone-free gap fillers, and putty-type gap fillers. Putty-type gap fillers have an extreme level of wettability and conformability, but do not uncompress to original shape after pressure is removed from the material.

Boyd's Gap Fillers conform with REACH and RoHS regulations.

ORDERING INFORMATION

Contact your Boyd representative for more information or connect with us through our website: www.boydcorp.com/boyd-contact

STRUCTURE TYPES:

Structure	Illustration	Description
A		Silicone
B		Silicone Rubber with Glass Fiber Silicone
C		Silicone with Centered Glass Fiber
D		Silicone Rubber without Reinforcement Silicone
E		Silicone Gap Filler Putty Type with Centered Glass Fiber
F		Silicone Gap Filler Putty Type
G		Silicone Free Gap Filler

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

Part Number	Structure Type	Thermal Conductivity (W/mK)
BCTIM-211-1014	A	1.0
BCTIM-212-1020	A	1.0
BCTIM-212-1073	A	1.2
BCTIM-212-1029	A	1.7
BCTIM-211-1015	A	2.0
BCTIM-212-1021	A	2.0
BCTIM-212-1027	A	2.0
BCTIM-212-1028	A	2.3
BCTIM-211-1016	A	3.0
BCTIM-212-1022	A	3.0
BCTIM-212-1023	A	3.0
BCTIM-212-1025	A	3.0
BCTIM-212-1026	A	3.0
BCTIM-211-1017	A	4.0
BCTIM-211-1018	A	5.0
BCTIM-212-1031	A	5.0
BCTIM-211-1019	A	6.0
BCTIM-216-1035	A	7.0
BCTIM-216-1036	A	11.0
BCTIM-216-1037	A	11.0
BCTIM-216-1038	A	13.0
BCTIM-216-1039	A	17.0
BCTIM-213-1023	B	1.0
BCTIM-213-1066	B	1.0
BCTIM-213-1067	B	1.0
BCTIM-214-1028	B	1.0
BCTIM-214-1065	B	1.2

Part Number	Structure Type	Thermal Conductivity (W/mK)
BCTIM-213-1024	B	2.0
BCTIM-213-1068	B	2.0
BCTIM-214-1029	B	2.0
BCTIM-213-1025	B	3.0
BCTIM-214-1030	B	3.0
BCTIM-213-1026	B	4.0
BCTIM-213-1027	B	5.0
BCTIM-215-1031	C	1.0
BCTIM-213-1069	C	1.5
BCTIM-215-1032	C	2.0
BCTIM-215-1064	C	2.0
BCTIM-215-1033	C	3.0
BCTIM-215-1057	C	3.0
BCTIM-215-1058	C	3.0
BCTIM-215-1061	C	3.0
BCTIM-220-1057	C	3.0
BCTIM-215-1063	C	5.0
BCTIM-215-1059	C	5.0
BCTIM-212-1030	D	5.0
BCTIM-218-1045	E	6.0
BCTIM-218-1044	F	6.0
BCTIM-218-1046	F	11.0
BCTIM-218-1047	F	17.0
BCTIM-217-1042	G	1.5
BCTIM-217-1041	G	2.0
BCTIM-217-1043	G	3.0
BCTIM-217-1060	G	3.0

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-211-1014	BCTIM-211-1015	BCTIM-211-1016	BCTIM-211-1017
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	1	2	3	4
Hardness	55	55	60	60
Shore	OO	OO	OO	OO
Reinforcement	N	N	N	N
Tack	2	2	2	2
Volume Resistivity (Ω cm)	10^{13}	10^{13}	10^{12}	10^{12}
Break Down Voltage (kV/mm)	10	6	6	6
Min Temp (°C)	-50	-50	-50	-50
Max Temp (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	25	25	25	25
Structure	A	A	A	A
Format Type (mm)	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

PROPERTIES	BCTIM-211-1018	BCTIM-211-1019[9]	BCTIM-212-1020	BCTIM-212-1021
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	5	6	1	2
Hardness	60	60	20	20
Shore	OO	OO	OO	OO
Reinforcement	N	N	N	N
Tack	2	2	2	2
Volume Resistivity (Ω cm)	10^{12}	10^{12}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	6	6	10	6
Min Temp (°C)	-50	-50	-50	-50
Max Temp (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	25	25	6	6
Structure	A	A	A	A
Format Type (mm)	Roll, Sheet	Sheet: 300 x 400	Roll, Sheet	Roll, Sheet

[9]Known as TBE

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-212-1022	BCTIM-212-1023	BCTIM-212-1025[1]	BCTIM-212-1026[2]
Material	Silicone Gap Filler	Silicone Gap Filler with Aluminum Tape	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	3	3	3	3
Hardness	30	30	30	73
Shore	OO	OO	OO	OO
Reinforcement	N	N	N	N
Tack	2	1	2	2
Volume Resistivity (Ω cm)	10^{12}	10^{12}	-	-
Break Down Voltage (kV/mm)	6	6	5	5
Min Temp (°C)	-50	-40	-60	-60
Max Temp (°C)	200	200	180	180
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.25	0.5	0.5
Maximum Thickness (mm)	6	6	4	5
Structure	A	A	A	A
Format Type (mm)	Roll, Sheet	Sheet	Sheet	Sheet

PROPERTIES	BCTIM-212-1027[3]	BCTIM-212-1028[4]	BCTIM-212-1029[5]	BCTIM-212-1030[6]
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	2	2.3	1.7	5
Hardness	28	50	57	74
Shore	OO	OO	OO	OO
Reinforcement	N	N	N	N
Tack	2	2	2	1
Volume Resistivity (Ω cm)	-	-	-	10^{10}
Break Down Voltage (kV/mm)	5	8	4	11
Min Temp (°C)	-60	-60	-40	-60
Max Temp (°C)	180	200	150	180
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	3	2	5	4
Structure	A	A	A	D
Format Type (mm)	Sheet: Min. 450 x 460	Roll	Roll	Sheet

[1]Known as TDFBS & KU-TDFBS
[2]Known as TDFD & KU-TDFD
[3]Known as TDFF & KU-TDFF
[4]Known as Tsoft3
[5]Known as Tsoft3 ST
[6]Known as TXE & KU-TXE

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-212-1031[7]	BCTIM-212-1073	BCTIM-213-1023	BCTIM-213-1024
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	5	1.2	1	2
Hardness	80	27	55	55
Shore	OO	OO	OO	OO
Reinforcement	N	N	Fiberglass	Fiberglass
Tack	2	To Be Determined	1	1
Volume Resistivity (Ω cm)	10^{10}	10^{13}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	8	9.8	10	6
Min Temp (°C)	-60	-40	-50	-50
Max Temp (°C)	180	160	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	3	5	6	6
Structure	A	A	B	B
Format Type (mm)	Sheet: 300 x 400	To Be Determined	Roll, Sheet	Roll, Sheet

PROPERTIES	BCTIM-213-1025	BCTIM-213-1026	BCTIM-213-1027	BCTIM-213-1066
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	3	4	5	1
Hardness	55	55	55	40
Shore	OO	OO	OO	OO
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	1	1	1	1
Volume Resistivity (Ω cm)	10^{12}	10^{12}	10^{12}	10^{13}
Break Down Voltage (kV/mm)	6	6	6	10
Min Temp (°C)	-50	-50	-50	-50
Max Temp (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	6	6	6	6
Structure	B	B	B	B
Format Type (mm)	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

[7]Known as TXS & KU-TXS

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-213-1067[8]	BCTIM-213-1068[9]	BCTIM-213-1069[10]	BCTIM-214-1028
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	1	2	1.5	1
Hardness	60	60	60	5
Shore	OO	OO	OO	OO
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	1	1	2	1
Volume Resistivity (Ω cm)	-	-	-	10^{13}
Break Down Voltage (kV/mm)	4	7	4.5	10
Min Temp (°C)	-60	-60	-40	-50
Max Temp (°C)	200	200	150	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.25	0.5
Maximum Thickness (mm)	3	3	2	6
Structure	B	B	C	B
Format Type (mm)	Roll	Roll	Roll	Roll, Sheet

PROPERTIES	BCTIM-214-1029[11]	BCTIM-214-1030	BCTIM-214-1065[12]	BCTIM-215-1031
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	2	3	1.2	1
Hardness	5	5	5	25
Shore	OO	OO	OO	OO
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	1	1	1	2
Volume Resistivity (Ω cm)	10^{13}	10^{12}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	3	6	3	10
Min Temp (°C)	-50	-50	-50	-50
Max Temp (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.25
Maximum Thickness (mm)	6	6	6	0.75
Structure	B	B	B	C
Format Type (mm)	Roll, Sheet	Roll, Sheet	Sheet: 200 x 300	Roll, Sheet

[8]Known as Tsoft
[9]Known as Tsoft3 S
[10]Known as Tsoft3 STF
[11]Known as TBF-B
[12]Known as TBF-A

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-215-1032[13]	BCTIM-215-1033	BCTIM-215-1057	BCTIM-215-1058[14]
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	2	3	3	3
Hardness	40	40	15	30
Shore	OO	OO	OO	OO
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	2	2	2	2
Volume Resistivity (Ω cm)	10^{13}	10^{12}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	10	10	10	10
Minimum Temperature (°C)	-50	-50	-50	-50
Maximum Temperature (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.25	0.25	0.25	0.5
Maximum Thickness (mm)	6	0.75	6	6
Structure	C	C	C	C
Format Type (mm)	Sheet: 200 x 300	Roll, Sheet	Roll, Sheet	Sheet: 200 x 300

PROPERTIES	BCTIM-215-1059[15]	BCTIM-215-1061[16]	BCTIM-215-1063	BCTIM-215-1064
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	5	3	5	2
Hardness	35	5	40	60
Shore	OO	OO	OO	OO
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	2	2	2	2
Volume Resistivity (Ω cm)	10^{13}	10^{13}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	10	11	10	6
Minimum Temperature (°C)	-50	-50	-50	-50
Maximum Temperature (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.25	0.5	0.25	0.25
Maximum Thickness (mm)	6	3	6	6
Structure	C	C	C	C
Format Type (mm)	Sheet: 200 x 300	Sheet: 200 x 300	Roll, Sheet	Roll, Sheet

[13]Known as TBC-B
[14]Known as TBC-D
[15]Known as TBC-F
[16]Known as TBC-C

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-216-1035[17]	BCTIM-216-1036[18]	BCTIM-216-1037[19]	BCTIM-216-1038[20]
Material	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	7	11	11	13
Hardness	70	70	40	75
Shore	OO	OO	OO	OO
Reinforcement	N	N	N	N
Tack	2	2	2	2
Volume Resistivity (Ω cm)	10^{12}	10^{12}	10^{12}	10^{12}
Break Down Voltage (kV/mm)	6	6	6	3
Minimum Temperature (°C)	-50	-50	-50	-40
Maximum Temperature (°C)	200	200	200	200
Flammability	V0	V0	V0	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.5
Maximum Thickness (mm)	6	6	6	3
Structure	A	A	A	A
Format Type (mm)	Sheet: 200 x 300	Sheet: 200 x 300	Sheet: 200 x 300	Sheet: 200 x 300

PROPERTIES	BCTIM-216-1039[21]	BCTIM-217-1041[22]	BCTIM-217-1042	BCTIM-217-1043
Material	Silicone Gap Filler	Silicone FREE Gap Filler	Silicone FREE Gap Filler	Silicone FREE Gap Filler
Thermal Conductivity (W/mK)	17	2	1.5	3
Hardness	80	50	38	57
Shore	OO	OO	OO	OO
Reinforcement	N	N	Y	Y
Tack	2	1	1	1
Volume Resistivity (Ω cm)	10^{12}	10^{12}	10^{12}	10^{14}
Break Down Voltage (kV/mm)	6	6	To Be Determined	10
Minimum Temperature (°C)	-50	-20	-40	-40
Maximum Temperature (°C)	200	120	125	125
Flammability	V0	V0	V2	V0
Minimum Thickness (mm)	0.5	0.5	0.5	0.3
Maximum Thickness (mm)	8	3	2	2
Structure	A	G	G	G
Format Type (mm)	Sheet: 200 x 300	Roll, Sheet	Roll	Roll

[17]Known as TBG
[18]Known as TBL
[19]Known as TBS
[20]Known as TBH
[21]Known as TBI
[22]Known as SFA

TRANSTHERM® THERMALLY CONDUCTIVE GAP FILLER

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-217-1060[23]	BCTIM-218-1044	BCTIM-218-1045
Material	Silicone FREE Gap Filler	Putty Gap Filler	Putty Gap Filler
Thermal Conductivity (W/mK)	3	6	6
Hardness	60	N/A	N/A
Shore	OO	OO	OO
Reinforcement	Y	N	Fiberglass
Tack	1	2	2
Volume Resistivity (Ω cm)	10^{12}	10^{9}	10^{9}
Break Down Voltage (kV/mm)	6	6	6
Minimum Temperature (°C)	-20	-55	-40
Maximum Temperature (°C)	120	200	200
Flammability	V0	V0	V0
Minimum Thickness (mm)	0.5	1.5	0.2
Maximum Thickness (mm)	3	2	0.7
Structure	G	F	E
Format Type (mm)	Roll, Sheet	Sheet: 200 x 300	Roll, Sheet

[23]Known as SFO

PROPERTIES	BCTIM-218-1046	BCTIM-218-1047	BCTIM-220-1057
Material	Putty Gap Filler	Putty Gap Filler	Silicone Gap Filler
Thermal Conductivity (W/mK)	11	17	3
Hardness	N/A	N/A	40
Shore	OO	OO	OO
Reinforcement	N	N	Fiberglass
Tack	2	2	2
Volume Resistivity (Ω cm)	10^{7}	10^{9}	10^{12}
Break Down Voltage (kV/mm)	6	6	6
Minimum Temperature (°C)	-40	-55	-40
Maximum Temperature (°C)	200	200	150
Flammability	V0	V0	V0
Minimum Thickness (mm)	1.5	0.2	0.35
Maximum Thickness (mm)	2	0.5	0.5
Structure	F	F	C
Format Type (mm)	Sheet: 200 x 300	Roll, Sheet	Sheet

Disclaimer: Boyd Corporation disclaims all liability for accuracy of this information. The data in this document is only for general information purposes. Boyd has standardized all thermal interface material part numbers so the part number you have on file may have changed, please contact a Boyd representative on the status of any part number you do not see. Please confirm compatibility with your applications prior to use. For advice or additional support, please contact a Boyd representative. Technical details are subject to change without notice. Breakdown Voltage values presented represent average breakdown voltage measured at minimum or average thickness of material and may increase with thicker materials or decrease with thinner materials

Some older revision Gap Filler TIMs may still be available to purchase for previously specified applications. See your Boyd sales representative for assistance with: TBE, TBG, TBL, TBS, TBF-C, TBF-E, TBC-B, TBC-C, TBC-D, TBC-F, PU6, PU11, SFI, KU-SFI

To maintain the material integrity, recommended storage temperature is between +10°C to +40 ° C with a humidity of 25% to 65%. Exposure to direct sunlight or direct pressure on packaging or parts is prohibited. Process material at +20 °C and above.

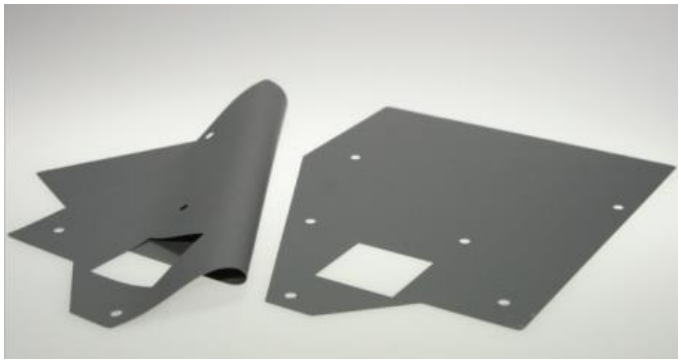
Transtherm® Thermally Conductive Silicone Rubber & Silicone-Free Rubber Pad

TRANSTHERM® THERMALLY CONDUCTIVE RUBBER

Transtherm® Thermally Conductive Silicone Rubber and Silicone-Free Rubber Pads combine high thermal conductivity and electrical isolation into a single component. By integrating aluminum oxide fillers, rubber interface materials benefit from higher thermal conductivity while maintaining high dielectric strength even at high temperatures.

Most silicone rubbers and silicone-free rubbers are available with a mechanical reinforcement option, typically woven fiberglass, for additional mechanical stability. Resolve dry out, cracking, and silicone migration issues by replacing mica and thermal grease applications with cleaner and reproducible rubber materials.

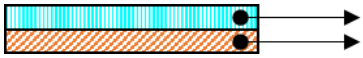
Boyd's Transtherm® Thermally Conductive Silicone Rubber and Silicone-Free Rubber Pads conform with REACH and RoHS regulations.



ORDERING INFORMATIONON

Contact your Boyd representative for more information or connect with us through our website: www.boydcorp.com/boyd-contact

STRUCTURE TYPES:

STRUCTURE	ILLUSTRATION	DESCRIPTION
A		Silicone Rubber With Polyimide
B		Silicone Rubber With Glass Fiber
C		Silicone Rubber With Glass Fiber Adhesive Tack
D		Silicone Free Rubber

TRANSTHERM® THERMALLY CONDUCTIVE SILICONE RUBBER & SILICONE-FREE RUBBER PAD

MATERIAL PROPERTIES:

PART NUMBER	STRUCTURE TYPE	THERMAL CONDUCTIVITY (W/mK)
BCTIM-210-1081	A	1.80
BCTIM-210-1079	B	0.9
BCTIM-210-1001	B	1.00
BCTIM-210-1002	B	1.00
BCTIM-210-1007	B	1.30
BCTIM-210-1008	B	1.30
BCTIM-210-1003	B	1.50
BCTIM-210-1004	B	1.50
BCTIM-210-1010	B	1.50
BCTIM-210-1062	B	1.50
BCTIM-210-1009	B	1.60

PART NUMBER	STRUCTURE TYPE	THERMAL CONDUCTIVITY (W/mK)
BCTIM-210-1080	B/C	1.80
BCTIM-210-1078	B/C	1.90
BCTIM-210-1005	B	2.00
BCTIM-210-1006	B	2.00
BCTIM-210-1082	B/C	3.40
BCTIM-210-1075	B	4.10
BCTIM-210-1076	B/C	5.00
BCTIM-210-1074	B	8.00
BCTIM-210-1077	C	1.00
BCTIM-210-1061	D	1.40

PROPERTIES	BCTIM-210-1001	BCTIM-210-1002	BCTIM-210-1003	BCTIM-210-1004
Material	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad
Structure	B	B	B	B
Thermal Conductivity (W/mK)	1	1	1.5	1.5
Hardness	80	80	80	80
Shore	Shore A	Shore A	Shore A	Shore A
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	0	0	0	0
Volume Resistivity (Ω cm)	10^{13}	10^{13}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	10	10	10	10
Minimum Temperature (°C)	-50	-50	-50	-50
Maximum Temperature (°C)	200	200	200	200
Minimum Thickness (mm)	0.15	0.2	0.15	0.2
Maximum Thickness (mm)	0.15	0.2	0.15	0.2
Format Type	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

TRANSTHERM® THERMALLY CONDUCTIVE SILICONE RUBBER & SILICONE-FREE RUBBER PAD

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-210-1005	BCTIM-210-1006	BCTIM-210-1007	BCTIM-210-1008
Material	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad
Structure	B	B	B	B
Thermal Conductivity (W/mK)	2	2	1.3	1.3
Hardness	80	80	80	80
Shore	Shore A	Shore A	Shore A	Shore A
Reinforcement	Fiberglass	Fiberglass	Polyimide	Polyimide
Tack	0	0	0	0
Volume Resistivity (Ω cm)	10^{13}	10^{13}	10^{13}	10^{13}
Break Down Voltage (kV/mm)	6	6	10	10
Minimum Temperature (°C)	-50	-50	-50	-50
Maximum Temperature (°C)	200	200	200	200
Minimum Thickness (mm)	0.15	0.2	0.15	0.2
Maximum Thickness (mm)	0.15	0.2	0.15	0.2
Format Type	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

PROPERTIES	BCTIM-210-1009	BCTIM-210-1010[º]	BCTIM-210-1061[¹]	BCTIM-210-1062
Material	Silicone Gap Pad	Silicone Gap Pad	Silicone Free Gap Pad	Silicone Gap Pad
Structure	B	B	D/E	B
Thermal Conductivity (W/mK)	1.6	1.5	1.4	1.5
Hardness	8	86	70	80
Shore	Shore A	Shore A	Shore A	Shore A
Reinforcement	Fiberglass	Fiberglass	N	Fiberglass
Tack	0	0	0	0
Volume Resistivity (Ω cm)	10^{12}	10^{12}	3.0×10^{14}	10^{13}
Break Down Voltage (kV/mm)	6	6	7.5	10
Minimum Temperature (°C)	-60	-60	-20	-50
Maximum Temperature (°C)	180	180	100	200
Minimum Thickness (mm)	0.23	0.19	0.3	0.23
Maximum Thickness (mm)	0.23	0.19	0.5	0.23
Format Type	Roll, Sheet	Roll	Roll	Roll, Sheet

[º]Known as TGP19
[¹]Known as SFB & KU-SFB30

TRANSTHERM® THERMALLY CONDUCTIVE SILICONE RUBBER & SILICONE-FREE RUBBER PAD

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-210-1074[2]	BCTIM-210-1075[3]	BCTIM-210-1076[4]*	BCTIM-210-1077[5]
Material	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad
Structure	B	B/C	B/C	C
Thermal Conductivity (W/mK)	8	4.1	5	1
Hardness	83	88	90	80
Shore	Shore A	Shore A	Shore A	Shore A
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Fiberglass
Tack	0	0/1	0	1
Thermal Resistance - inch² (cm²) (°C/W)	0.08 (0.50) 0.11 (0.64)	0.31 (1.99) 0.36 (2.32)	0.1 (0.645) 0.28 (1.806) 0.29 (1.871)	0.38 (2.45)
Breakdown Voltage (V (AC))	4000 5000	3000 6500	1000 3000 6000	4000
Minimum Temperature (°C)	-50	-50	-50	-60
Maximum Temperature (°C)	180	180	180	180
Flammability	N/A	V0	V0	V0
Thickness (mm)	0.2 ± 0.05 0.3 ± 0.05	0.2 ± 0.05 0.3 ± 0.05	0.08 ± 0.05 0.2 ± 0.05 0.3 ± 0.05	0.23 ± 0.03
Format Type	Sheet: 440 x 510	Sheet	Sheet: 440 x 510	Roll

[2]Known as BDC
[3]Known as BGD, KU-BGD20, & KU-BGD30
[4]Known as BGDX, KU-BGDX08, KU-BGDX20 & KU-BGDX30
[5]Known as T1200-9-2023
[6]Known as T3
[7]Known as T400-7
[8]Known as TAG, KU-TAG20 & KU-TAG30
[9]Known as TAP11 & KU-TAP11
[10]Known as TEG, KU-TEG20 & KU-TEG30
**All values listed are for structure B, the single-sided adhesive variations typically have up to 20% lower thermal conductivity.*

PROPERTIES	BCTIM-210-1078[6]*	BCTIM-210-1079[7]	BCTIM-210-1080[8]*	BCTIM-210-1081[9]	BCTIM-210-1082[10]*
Material	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad	Silicone Gap Pad
Structure	B/C	B	B/C	A	B/C
Thermal Conductivity (W/mK)	1.9	0.9	1.8	1.8	3.4
Hardness	84	85	90	87	90
Shore	Shore A	Shore A	Shore A	Shore A	Shore A
Reinforcement	Fiberglass	Fiberglass	Fiberglass	Polyimide	Fiberglass
Tack	0	0	0/1	0	0
Thermal Resistance - inch² (cm²) (°C/W)	0.11 (0.71)	0.45 (2.9)	0.26 (1.67) 0.37 (2.39)	0.29 (1.87)	0.21 (1.35) 0.25 (1.61)
Breakdown Voltage (V (AC))	Not Electrically Isolating	4000	7000 10,000	10000	7000 9000
Minimum Temperature (°C)	-60	-60	-40	-40	-40
Maximum Temperature (°C)	180	180	180	180	180
Flammability	N/A	V0	V0	V0	V0
Thickness (mm)	0.13 ± 0.02	0.18 ± 0.03	0.2 ± 0.05 0.3 ± 0.05	0.11 ± 0.02	0.2 ± 0.05 0.3 ± 0.05
Format Type	Roll	Roll	Roll	Roll	Roll

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Some older revision Gap Pad TIMs may still be available to purchase for previously specified applications. See your Boyd sales representative for assistance with: TGP19

To maintain the material integrity, recommended storage temperature is between +10°C to +40 ° C with a humidity of 25% to 65%. Exposure to direct sunlight or direct pressure on packaging or parts is prohibited. Process material at +20 °C and above.

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMALLY CONDUCTIVE GRAPHITE

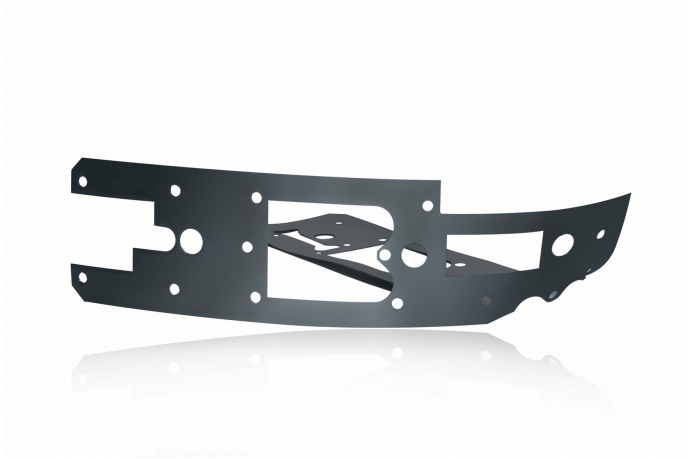
TRANSTHERM® THERMALLY CONDUCTIVE GRAPHITE

Boyd's Transtherm® Thermally Conductive Graphite Pads & Films are composed of graphite, the isotope of pure carbon that arranges itself in stacked sheets. Graphite's sheet-like crystals, graphene, offers superior in-plane thermal conductivity compared to its through-plane thermal conductivity.

With low mass and high heat transfer capabilities, graphite pads & films are high performance, high heat spreading thermal interface materials available in ultra-thin and light weight configurations which makes it an ideal solution for ultra low profile heat spreading for lightweight applications.

Thermally conductive graphite pads & films fall into three groups: Pyrolytic Graphite (PG) or Pyrolytic Graphite Sheets (PGS) and Annealed Pyrolytic Graphite (APG) also known as Thermally Annealed Pyrolytic Graphite (TPG). Both are created through Chemical Vapor Deposition (CVD) with high purity hydrocarbons.

Boyd's Transtherm® Graphite Pads & Films conform with REACH and RoHS regulations.



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MATERIAL PROPERTIES:

PROPERTIES	BCTIM-230-1016[1]	BCTIM-230-1017[2]	BCTIM-230-1018[3]
Material	Graphite	Graphite	Graphite
Planar Conductivity (W)	400	800	150
Through Conductivity (mK)	3.7	7	10
Hardness (Shore A)	N/A	N/A	N/A
Electrical Resistivity In-plane (μΩm)	5.2	N/A	N/A
Minimum Temperature (°C)	-40	-40	-40
Maximum Temperature (°C)	400	400	400
Flammability (UL 94)	V0	V0	V0
Minimum Thickness. (mm)	0.127	0.2	0.127
Maximum Thickness (mm)	0.25	N/A	0.25

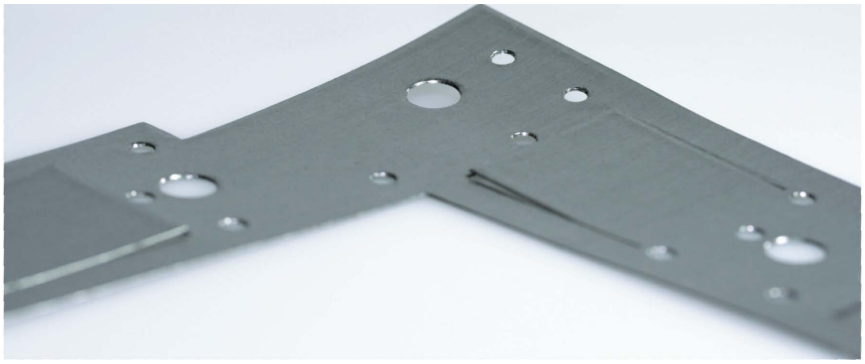
[1]Known as Gra SS400
[2]Known as HT 3200. This is a non-reversible compressible graphite
[3]Known as HT-1205 (0.127mm) & HT-1210 (0.250mm)

TRANSTHERM® THERMALLY CONDUCTIVE GRAPHITE

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-230-1019[4]	BCTIM-230-1020[5]	BCTIM-230-1021[6]
Material	Graphite	Graphite	Graphite
Planar Conductivity (W)	120	99	134
Through Conductivity (mK)	16	5.4	6
Hardness (Shore A)	85	N/A	89
Volume Resistivity (Ω cm)	$80*10^6/1550*10^6$	600 / 65000	$1.5*10^8$
Minimum Temperature (°C)	-25	-240	-240
Maximum Temperature (°C)	125	500	400
Flammability (UL 94)	V0	N/A	N/A
Minimum Thickness. (mm)	0.127	0.2	0.125
Maximum Thickness (mm)	0.25	2	0.25

[4]Known as HT-2505 (0.127mm) & HT-2510 (0.250mm)
[5]Known as KU-CBGA
[6]Known as KU-CBMA



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To maintain the material integrity, recommended storage temperature is between +10°C to +40 ° C with a humidity of 25% to 65%. Exposure to direct sunlight or direct pressure on packaging or parts is prohibited. Process material at +20 °C and above.

BOYD CORPORATION

TECHNICAL DATASHEET

Transtherm® Thermally Conductive Phase Change Materials

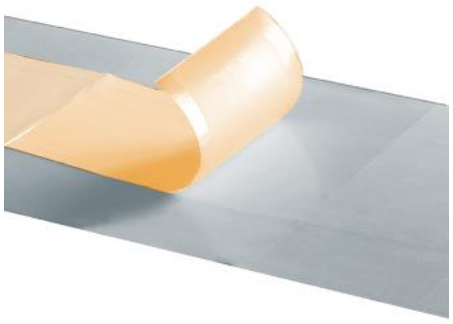
TRANSTHERM® PHASE CHANGE MATERIALS

Transtherm® Thermally Conductive Phase Change Materials (PCMs) are thin wax-like materials designed to melt at a specific temperature. While the PCM absorbs heat, it completely wets-out across the surface achieving an extremely thin bond line. This provides excellent temperature control, close contact between surfaces, and minimal thermal resistance.

Once the phase change temperature is first exceeded, optimal thermal performance is maintained above and below the melt temperature. Phase change materials are best for thermally conductive applications that require good wet out on surfaces with little or no force. While the PCM is soft or in its liquid state, excessive pressure will squeeze out extra material from in between the surfaces.

Phase change materials are temperature sensitive where they may reach their phase change temperature during transport. We recommend keeping stock in a temperature-controlled environment during summer or in warmer climates.

Boyd's Transtherm® Phase Change Materials conform with REACH and RoHS regulations.



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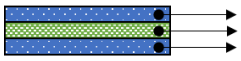
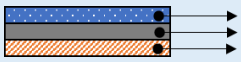
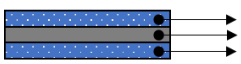
STRUCTURE TYPES:

STRUCTURE	ILLUSTRATION	DESCRIPTION
A		Phase Change Material
B		Phase Change Material
		Polyimide
		Adhesive
C		Phase Change Material
		Polyimide
		Phase Change Material
D		Phase Change Material
		Aluminum
		Adhesive
E		Phase Change Material
		Aluminum
		Phase Change Material

Part Number	Structure Type	Thermal Conductivity (W/mK)
BCTIM-220-1054	A	4.40
BCTIM-220-1055	A	4.40
BCTIM-220-1066	B	1.20
BCTIM-220-1056	B	1.60
BCTIM-220-1061	B/C	0.36
BCTIM-220-1062	B/C	0.45
BCTIM-220-1065	C	1.60
BCTIM-220-1072	C	1.60
BCTIM-220-1064	D	3.90
BCTIM-220-1063	E	4.50
BCTIM-220-1059	E	5.60
BCTIM-220-1060	E	13.10

TRANSTHERM® THERMALLY CONDUCTIVE PHASE CHANGE MATERIALS

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-220-1054[0]	BCTIM-220-1055	BCTIM-220-1056*	BCTIM-220-1059[1]
Material	Phase Change Material	Phase Change Material	Phase Change Material	Phase Change Material
Structure	A	A	B	E
Thermal Conductivity (W/mK)	4.4	4.4	1.6	5.6
Reinforcement	N	N	Polyimide	Aluminum
Tack	0	0	1	0
Thermal Resistance – inch2 (cm2) (°C/W)	0.84 (5.42)	-	N/A	0.021 (0.135)
Breakdown Voltage [V(AC)]	Not Electrically Isolating	Not Electrically Isolating	5000	Not Electrically Isolating
Minimum Temperature (°C)	-40	-40	-40	-60
Maximum Temperature (°C)	125	125	150	150
Phase Change Temperature (°C)	50	45	60	60
Total Thickness (mm)	0.2 ± 0.02	0.25	0.1 ± 0.01	0.075 ± 0.015
Approx. PCM Coating Thickness	N/A	N/A	0.0375	0.0125
Phase Change Material	Wax	Wax	Wax	Crayotherm® Wax
Flammability	N/A	N/A	N/A	N/A

PROPERTIES	BCTIM-220-1060[2]	BCTIM-220-1061[3^]	BCTIM-220-1062[4^]	BCTIM-220-1063[5]
Material	Phase Change Material	Phase Change Material	Phase Change Material	Phase Change Material
Structure	E	B/C	B/C	E
Thermal Conductivity (W/mK)	13.1	0.36	0.45	4.5
Reinforcement	Aluminum	Polyimide	Polyimide	Aluminum
Tack	0	0(B) / 1(C)	0(B) / 1(C)	0
Thermal Resistance – inch^2 (cm^2) (°C/W)	0.009 (0.058) 0.012 (0.077)	0.125 (0.806) 0.207 (1.335)	0.12 (0.774) 0.16 (1.032) 0.20 (1.290)	0.12 (0.774)
Breakdown Voltage [V(AC)]	Not Electrically Isolating	5200 9800	4200 6000 7700	Not Electrically Isolating
Minimum Temperature (°C)	-60	-60	-60	-40
Maximum Temperature (°C)	150	150	150	150
Phase Change Temperature (°C)	51	60	60	60
Total Thickness (mm)	0.075 ± 0.015 0.105 ± 0.015	0.050 ± 0.01 0.075 ± 0.015	0.050 ± 0.01 0.065 ± 0.015 0.075 ± 0.015	0.112 - 0.022/ + 0.028
Approx. PCM Coating Thickness	0.0125 0.0275	0.0125	0.0125	0.03
Phase Change Material	Crayotherm® Wax	Crayotherm® Wax	Crayotherm® Wax	Acrylic
Flammability	N/A	N/A	V0	N/A

[0]Known as PC-07
**Known as PC-08*
[1]Known as ALC5 & KU-ALC5
[2]Known as ALF5 / ALF-H2, KU-ALF5 & KU-ALF/H2
[3]Known as Series EPC, KU-EPC25, KU-EPC50
[4]Known as KG, KU-KG25, KU-KG38 & KU-KG50
[5]Known as PC03-AL

^All values listed are for structure B, the single-sided adhesive variations typically have up to 20% lower thermal conductivity.

TRANSTHERM® THERMALLY CONDUCTIVE PHASE CHANGE MATERIALS

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-220-1064[6]	BCTIM-220-1065[7]	BCTIM-220-1066[8]	BCTIM-220-1072[9]
Material	Phase Change Material	Phase Change Material	Phase Change Material	Phase Change Material
Structure	D	C	B	C
Thermal Conductivity (W/mK)	3.9	1.6	1.2	1.6
Reinforcement	Aluminum	Polyimide	Polyimide	Polyimide
Tack	1	0	1	0
Thermal Resistance – $inch^2$ (cm^2) (°C/W)	0.049 (0.316)	0.20 (1.29)	0.26 (1.680)	N/A
Breakdown Voltage [V(AC)]	Not Electrically Isolating	5000	5000	5000
Minimum Temperature (°C)	-40	-40	-40	-40
Maximum Temperature (°C)	150	150	150	150
Phase Change Temperature (°C)	60	60	60	60
Total Thickness (mm)	0.13 ± 0.02	0.1 ± 0.01	0.1 ± 0.01	0.1 ± 0.01
Approx. PCM Coating Thickness	0.05	0.038	0.038	0.038
Phase Change Material	Acrylic	Acrylic	Acrylic	Wax
Flammability	N/A	V0	V1	N/A

[6]Known as PC03-AL-2021
[7]Known as PC03-MT-100
[8]Known as PC03-MT1-2021
[9]Known as PC09

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Some older revision Phase Change TIMs may still be available to purchase for previously specified applications. See your Boyd sales representative for assistance with: PC07, PC08, PC09

To maintain the material integrity, recommended storage temperature is between +10°C to +40 ° C with a humidity of 25% to 65%. Exposure to direct sunlight or direct pressure on packaging or parts is prohibited. Process material at +20 °C and above.

BOYD CORPORATION

TECHNICAL DATASHEET

Transtherm® Thermally Conductive Adhesive Tapes

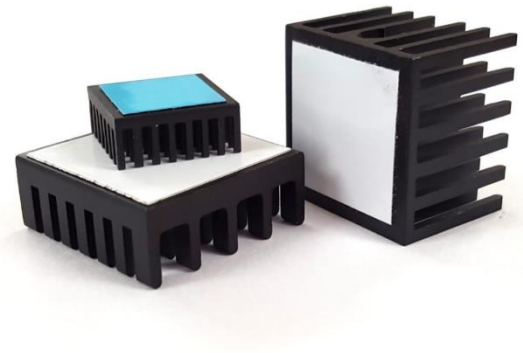
TRANSTHERM® THERMALLY CONDUCTIVE ADHESIVE TAPES

Transtherm® Thermally Conductive Adhesive Tapes combine mechanical attachment with improved thermal conductivity between joined surfaces. Utilizing these tapes reduce the thermal resistance between surfaces with a thin bond line of thermally conductive acrylic adhesive. Transtherm® Adhesive Tapes are commonly used to adhere LED light bars or semiconductor packages to heat sink surfaces.

These tapes feature pressure sensitive adhesives (PSAs), meaning they only require pressure for application and do not need heat cycling for maximum bonding or material wet-out. Adhesive tapes offer easy peel and stick application, enabling the user to replace mechanical attachment hardware, such as springs and screws and improve installation time.

Because thermally conductive adhesive tapes are composed of acrylic and are silicone free, they are ideal for sensitive applications. Transtherm® Tapes are available with a reinforcement material for high mechanical stability and typically feature double-sided adhesive, making them beneficial components in an integrated, multi-functional assembly.

Boyd's Transtherm® Thermally Conductive Adhesive Tapes conform with REACH and RoHS regulations.



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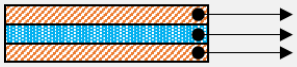
STRUCTURE TYPES:

Structures	Illustration	Description
A		Adhesive
B		Polyimide
		Adhesive
C		Adhesive
		Polyimide
		Adhesive
D		Adhesive
		Polyester (PET)
		Adhesive
E		Adhesive
		Fiberglass
		Adhesive

Part Number	Structure Type	Thermal Conductivity (W/mK)
BCTIM-219-1056	A	0.05
BCTIM-219-1060	A	0.80
BCTIM-219-1048	A	1.20
BCTIM-219-1049	A	1.20
BCTIM-219-1050	A	1.20
BCTIM-219-1051	A	1.20
BCTIM-219-1070	A	1.20
BCTIM-219-1061	B	0.60
BCTIM-219-1062	C	0.60
BCTIM-219-1063	C	1.20
BCTIM-219-1064	C	1.20
BCTIM-219-1059	D	1.10

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMALLY CONDUCTIVE ADHESIVE TAPES

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-219-1048	BCTIM-219-1049	BCTIM-219-1050	BCTIM-219-1051
Material	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape
Thermal Conductivity (W/mK)	1.2	1.2	1.2	1.2
Reinforcement	N	N	N	N
Adhesive Strength (N/m)	500	500	500	500
Break Down Voltage (kV/mm)	16	16	16	16
Minimum Temperature (°C)	-20	-20	-20	-20
Maximum Temperature (°C)	120	120	120	120
Flammability	V0	V0	V0	V0
Thickness (mm)	0.125	0.25	0.375	0.5
Structure	A	A	A	A
Format Type	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

PROPERTIES	BCTIM-219-1056	BCTIM-219-1059[1]	BCTIM-219-1060[2]	BCTIM-219-1061[3]
Material	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape
Thermal Conductivity (W/mK)	0.6	1.1	0.8	0.6
Reinforcement	N	PET	N	Polyimide
Adhesive Strength (N/m)	500	610	500	620
Break Down Voltage (kV/mm)	20	8.5	20	6
Minimum Temperature (°C)	-60	-40	-60	-40
Maximum Temperature (°C)	150	120	150	150
Flammability	-	V0	V0	N/A
Thickness (mm)	0.05	0.25	0.1	0.075
Structure	A	D	A	B
Format Type	Roll, Sheet	Roll	Roll, Sheet	Roll, Sheet

[1]Known as SFG, KU-SFG20 & KU-SFG25
[2]Known as T2022-100
[3]Known as TAP003

BOYD CORPORATION

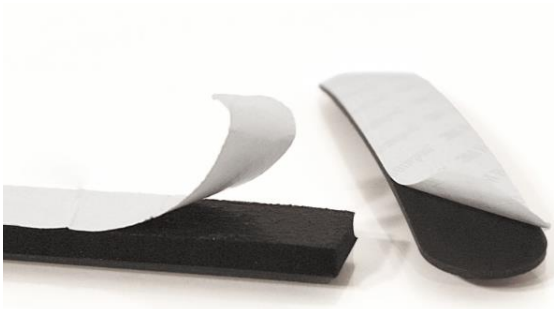
TECHNICAL DATASHEET

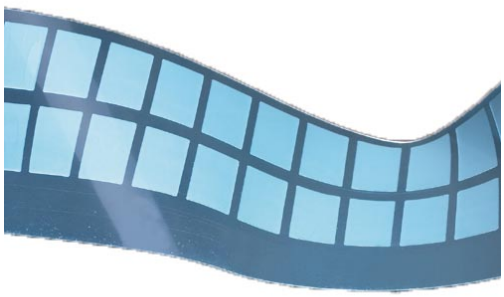
TRANSTHERM® THERMALLY CONDUCTIVE ADHESIVE TAPES

MATERIAL PROPERTIES:

PROPERTIES	BCTIM-219-1062[4]	BCTIM-219-1063[5]	BCTIM-219-1064[6]	BCTIM-219-1070
Material	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape	Acrylic Thermal Tape
Thermal Conductivity (W/mK)	0.6	1.2	1.2	1.2
Reinforcement	Polyimide	Polyimide	Polyimide	N
Adhesive Strength (N/m)	700	580	780	235
Break Down Voltage (kV/mm)	6	6	6	-
Minimum Temperature (°C)	-40	-40	-40	-20
Maximum Temperature (°C)	150	150	150	200
Flammability	V0	V0	V0	-
Thickness (mm)	0.125	0.125	0.25	0.15
Structure	C	C	C	A
Format Type	Roll, Sheet	Roll, Sheet	Roll, Sheet	Roll, Sheet

[4]Known as TAP005
[5]Known as TAP005 S
[6]Known as TAP010 S





Disclaimer: Boyd Corporation disclaims all liability for accuracy of this information. The data in this document is only for general information purposes. Boyd has standardized all thermal interface material part numbers so the part number you have on file may have changed, please contact a Boyd representative on the status of any part number you do not see. Please confirm compatibility with your applications prior to use. For advice or additional support, please contact a Boyd representative. Technical details are subject to change without notice. Breakdown voltage values presented represent average breakdown voltage measured at minimum or average thickness of material and may increase with thicker materials or decrease with thinner materials.

To maintain the material integrity, recommended storage temperature is between +10°C to +40 ° C with a humidity of 25% to 65%. Exposure to direct sunlight or direct pressure on packaging or parts is prohibited. Process material at +20 °C and above.

BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMAL EPOXY

TRANSTHERM® THERMAL EPOXY

Boyd's Transtherm® Thermal Epoxies provide both thermal conductivity and strong adhesion and can be used where no mounting holes are available.

Thermal epoxies create a strong mechanical bond between surfaces while offering high heat transfer and high voltage isolation. These specialized epoxies are mixed with thermally conductive fillers like ceramics or metallic particles that enable heat to easily transfer through the material. Thermal epoxy can act as both a thermal interface material and a mounting method to reduce the amount of mounting hardware utilized in a product or application.

Epoxy compounds offer low shrinkage and coefficients of thermal expansion comparable to copper or aluminum. They bond easily to metals, ceramics, most plastics and a wide variety of other materials.

Boyd's Transtherm® Thermal Epoxies conform with REACH and RoHS regulations.

ORDERING INFORMATION

Contact your Boyd representative for more information or connect with us through our website: www.boydcorp.com/boyd-contact

MATERIAL PROPERTIES:

PROPERTIES	Thermal Bond	Ther-O-Bond 1500	Ther-O-Bond 1600
Material	Thermal Epoxy	Thermal Epoxy	Thermal Epoxy
Thermal Conductivity (W/mK)	1.34	1.26	0.85
Hardness	86	88	90
Shore	D	D	D
Break Down Voltage (kV/mm)	59	31	16
Compressive Strength (kpsi)	20.9	14	-
Tensile Strength (kpsi)	9.2	9.2	9.2
CTE (ppm/°C)	24	25	25
Minimum Temperature (°C)	-65	-60	-70
Maximum Temperature (°C)	155	155	115
Product Type	2-Part	2-Part	2-Part
Bonds To	Copper, Aluminum, Steel, Glass, Ceramics, Most Plastics	Metals, Ceramics, Silica, Steatite, Alumina, Sapphire, Glass, Plastic	Metals, Ceramics, Silica, Steatite, Alumina, Sapphire, Glass, Plastic

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BOYD CORPORATION

TECHNICAL DATASHEET

TRANSTHERM® THERMAL GREASE

TRANSTHERM® THERMAL GREASE

Boyd's Transtherm® Thermal Grease, also known as thermal paste, is a spreadable compound specially designed for high thermal conductivity to reduce thermal interface resistance between surfaces. Thermal greases can be silicone based or silicone-free based compounds with thermally conductive filler particles that increase the overall conductivity of the mixture.

Thermal grease is a popular thermal interface material choice for many high performance thermal management applications. When two flat surfaces are mated together with grease, the grease spreads out and thins, decreasing the thermal resistance between surfaces. Higher forces, typically with the use of mounting hardware and spring forces, ensure the highest performance with thermal greases. When heated, grease can thin out further, which is why spring forces are typically required for most applications that will experience significant thermal cycling.

Boyd's Transtherm® Thermal Grease conforms with REACH and RoHS regulations.

ORDERING INFORMATION

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MATERIAL PROPERTIES:

PROPERTIES	BCTIM-240-1000	BCTIM-240-1005	BCTIM-240-1006	Thermalcote
Material	Thermal Grease	Thermal Grease	Thermal Grease	Thermal Grease
Thermal Conductivity (W/mK)	3.5	0.73	0.79	0.765
Volume Resistivity (Ω cm)	10^{12}	10^{15}	10^{12}	-
Break Down Voltage (kV/mm)	6	9.8	8.8	11.8
Minimum Temperature (°C)	-20	-40	-40	-40
Maximum Temperature (°C)	180	200	200	204

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