

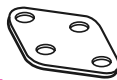


Fig.	Device Type	Dimensions - Inch (mm)							Digi-Key Part No.	Price Each				Bergquist Part No.
		A	B	C	D	E	F	G		1	10	50	100	
8	CPU	.63 (16.00)	.63 (16.00)	—	—	—	—	—	BER133-ND	.52	.47	.42	.38	CPU 63X.63
		1.375 (34.93)	1.375 (34.93)	—	—	—	—	—	BER135-ND	.86	.78	.70	.62	CPU 1.375X1.375
	Bridge Rect.	1.00 (25.40)	1.00 (25.40)	.187 (4.75)	—	—	—	—	BER142-ND	.46	.42	.37	.33	Q3-48
		1.25 (31.75)	1.25 (31.75)	.200 (5.08)	—	—	—	—	BER144-ND	.49	.44	.39	.35	Q3-46
9	TO-220 Tubes	.433 (11.00)	.985 (25.02)	—	—	—	—	—	BER145-ND	1.44	1.29	1.15	1.02	K10-46
		.532 (13.50)	.985 (25.02)	—	—	—	—	—	BER156-ND	.73	.66	.59	.52	SPT400-12-11-25
10	TO-5	.360 (9.14)	.200 (5.08)	.040 (1.02)	—	—	—	—	BER157-ND	.89	.80	.72	.64	SPT400-12-13.5-25
		—	—	—	—	—	—	—	BER213-ND*	.46	.41	.37	.33	7403-09FR-09
<b>"Hi-Flow™" Single Side Adhesive Backed Pads (Phase Change)</b>														
1	TO-3	1.65 (41.91)	1.14 (28.96)	.140 (3.56)	.093 (2.36)	1.187 (30.15)	.430 (10.92)	—	BER166-ND	.28	.25	.23	.20	HF115TAAC-05
3	TO-220	.750 (19.05)	.500 (12.70)	.187 (4.75)	.147 (3.73)	—	—	—	BER167-ND	.10	.09	.08	.07	HF115TAAC-54
3	TO-220	.750 (19.05)	.500 (12.70)	.187 (4.75)	.125 (3.18)	—	—	—	BER168-ND	.10	.09	.08	.07	HF115TAAC-58
3	TO-218	.860 (21.84)	.740 (18.80)	.200 (5.08)	.160 (4.06)	—	—	—	BER169-ND	.12	.10	.09	.08	HF115TAAC-90
5	SIP	1.450 (36.83)	.830 (21.08)	.612 (15.54)	.245 (6.22)	.960 (24.38)	.170 (4.32)	.120 (3.05)	BER170-ND	.14	.13	.11	.10	HF115TAAC-105
<b>"SP900™" Single Side Adhesive Backed Pads (Low Mounting Pressure)</b>														
1	TO-3	1.65 (41.91)	1.14 (28.96)	.140 (3.56)	.093 (2.36)	1.187 (30.15)	.430 (10.92)	—	BER181-ND	1.14	1.03	.92	.81	SP900EAC-05
3	TO-220	.750 (19.05)	.500 (12.70)	.187 (4.75)	.147 (3.73)	—	—	—	BER182-ND	.74	.67	.60	.53	SP900EAC-54
3	TO-220	.750 (19.05)	.500 (12.70)	.187 (4.75)	.125 (3.18)	—	—	—	BER183-ND	.74	.67	.60	.53	SP900EAC-58
<b>"Bond Ply™ 100" Double Sided Thermal Tape</b>														
Double Sided Adhesive Thermal Pad, .005" (.127) Thick, 11" x 12" (27.94 x 30.48cm) Square Sheet									BER246-ND	41.44	36.98	33.15	29.33	BOND PLY 105 11x12"
Double Sided Adhesive Thermal Pad, .008" (.203) Thick, 10" (25.4cm) Square Sheet									BER159-ND	50.99	45.51	40.80	36.09	BOND PLY 108 10x10"
Double Sided Adhesive Thermal Pad, .011" (.279) Thick, 10" (25.4cm) Square Sheet									BER160-ND	63.77	56.90	51.02	45.13	BOND PLY 111 10x10"
<b>"Gap Pad™ 1500" Thermal Gap Filling Material</b>														
High Thermally Conductive Pad, .020" (.508) Thick, 4" (10.16cm) Square Sheet									BER161-ND	9.98	8.91	7.99	7.07	.020 GP 1500 4" x 4"
High Thermally Conductive Pad, .040" (1.02) Thick, 4" (10.16cm) Square Sheet									BER162-ND	14.33	12.79	11.47	10.15	.040 GP 1500 4" x 4"
High Thermally Conductive Pad, .060" (1.52) Thick, 4" (10.16cm) Square Sheet									BER163-ND	16.45	14.68	13.16	11.64	.060 GP 1500 4" x 4"
High Thermally Conductive Pad, .080" (2.03) Thick, 4" (10.16cm) Square Sheet									BER164-ND	19.44	17.35	15.55	13.76	.080 GP 1500 4" x 4"
High Thermally Conductive Pad, .125" (3.18) Thick, 4" (10.16cm) Square Sheet									BER165-ND	26.39	23.55	21.12	18.68	.125 GP 1500 4" x 4"
High Thermally Conductive Pad, .040" (1.02) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER227-ND	99.03	88.37	79.23	70.09	.040 GP 1500 8" x 16"
High Thermally Conductive Pad, .060" (1.52) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER228-ND	96.85	86.42	77.48	68.54	.060 GP 1500 8" x 16"
High Thermally Conductive Pad, .080" (2.03) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER229-ND	110.92	98.98	88.74	78.50	.080 GP 1500 8" x 16"
High Thermally Conductive Pad, .125" (3.18) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER230-ND	189.31	168.93	151.45	133.98	.125 GP 1500 8" x 16"
<b>"Gap Pad™ 1500R" Thermal Gap Filling Material</b>														
High Thermally Conductive Pad, .010" (.254) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER231-ND	54.21	48.38	43.37	38.37	GP1500R 10 MIL 8" x 16"
High Thermally Conductive Pad, .015" (.381) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER232-ND	66.40	59.25	53.12	46.99	GP1500R 15 MIL 8" x 16"
High Thermally Conductive Pad, .020" (.508) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER233-ND	72.96	65.11	58.37	51.64	GP1500R 20 MIL 8" x 16"
<b>"Gap Pad™ VO Ultra Soft" Thermal Gap Filling Material</b>														
High Thermally Conductive Pad, .020" (.508) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER222-ND	72.05	64.30	57.65	51.00	.020 GP US 8" x 16"
High Thermally Conductive Pad, .040" (1.02) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER223-ND	90.61	80.86	72.49	64.13	.040 GP US 8" x 16"
High Thermally Conductive Pad, .060" (1.52) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER224-ND	101.66	90.72	81.33	71.95	.060 GP US 8" x 16"
High Thermally Conductive Pad, .080" (2.03) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER225-ND	116.48	103.94	93.19	82.44	.080 GP US 8" x 16"
High Thermally Conductive Pad, .125" (3.18) Thick, 8" x 16" (20.32 x 40.64cm) Sheet									BER226-ND	193.38	172.55	154.70	136.85	.125 GP US 8" x 16"

\* Made of SP400 material

C

**KEYSTONE**



**MICA Insulators for Transistor Mounting**

These precision stamped MICA insulators provide good thermal conductivity (.009 watts per square inch per °C per inch in thickness). Excellent thermal resistance 1100°F (593°C). Dielectric constant of 7 at 1000KHz. Specifications: .003" (.08mm) thick MICA ± .001" (± .003mm)

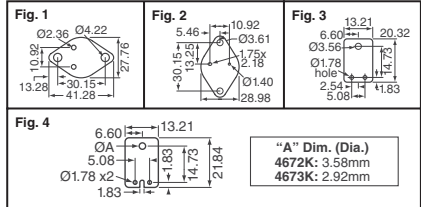
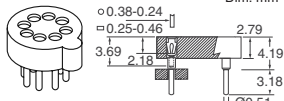


Fig.	Digi-Key Part No.	10	100	500	1,000	Keystone Part No.
1	4651K-ND	1.19	10.45	35.50	48.10	4651
2	4662K-ND	1.30	11.25	37.25	52.65	4662
3	4671K-ND	1.26	10.45	35.50	25.45	4671
4	4672K-ND	1.10	10.45	35.50	19.70	4672
4	4673K-ND	1.10	10.45	35.50	19.70	4673



**Transistor Sockets**

Plating: Sleeve (Pin): 200µ" Sn/Pb (RoHS Compliant: 200µ" Sn); Contact (Clip): 30µ" Au



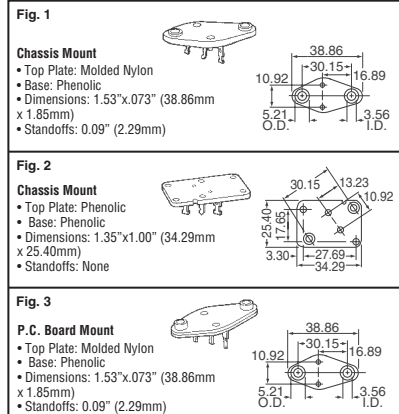
No. of Pins	Digi-Key Part No.	1	10	100	MILL-MAX Part No.
<b>TO-5 Package</b>					
3	ED2150-ND	1.29	1.10	.90	917-93-103-41-005000
3	ED90273-ND	1.77	1.50	1.23	917-43-103-41-005000
4	ED2151-ND	1.39	1.18	.97	917-93-104-41-005000
4	ED90274-ND	1.87	1.59	1.30	917-43-104-41-005000
8	ED2152-ND	1.80	1.53	1.25	917-93-108-41-005000
8	ED90275-ND	2.30	1.95	1.60	917-43-108-41-005000
<b>TO-10 Package</b>					
8	ED2153-ND	1.80	1.53	1.25	917-93-208-41-005000
8	ED90276-ND	2.30	1.95	1.60	917-43-208-41-005000
10	ED2154-ND	2.64	2.24	1.83	917-93-210-41-005000
10	ED90277-ND	2.78	2.36	1.93	917-43-210-41-005000

• RoHS Compliant

**KEYSTONE**



**TO-3 Power Transistor Sockets**



**Transistor Mounting Hardware**

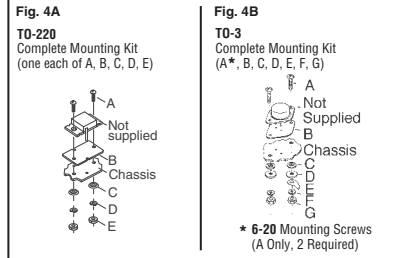


Fig.	Digi-Key Part No.	1	10	100	Keystone Part No.
1	4601K-ND	2.29	2.16	2.07	4601
2	4606K-ND	1.95	1.84	1.60	4606
3	4600K-ND	2.04	1.93	1.75	4600
4A	4724K-ND	1.95	1.81	1.60	4724
4B	4725K-ND	1.95	1.81	1.60	4725
4B	4706K-ND*	2.68/20	25.40/200		4706

**ASAHI RUBBER INC.**



**Heat Sink Pads**

Asahi Rubber offers an excellent product for applications requiring a thermal solution. The ART Series is a thermally conductive silicone gel that can be cut as required.

Features: • Color: Gray • Dimensions: 11.81" x 8.46" (300mm x 215mm) • Thickness range: 0.3 mm to 2.0 mm • Operating Temperature Range: -60°C - 200°C

Thickness Inch (mm)	Digi-Key Part No.	1	10	50	Asahi Part No.
.01 (0.3)	509-1000-ND	48.12	44.11	39.30	ART03
.02 (0.5)	509-1001-ND	53.01	48.60	43.30	ART05
.04 (1.0)	509-1002-ND	76.59	70.21	62.55	ART10
.06 (1.5)	509-1003-ND	98.19	90.01	80.19	ART15
.08 (2.0)	509-1004-ND	120.12	110.11	98.10	ART20

**molex**



**TO-220 Solder Tail Transistor Sockets**

P.C. Board Mount: .100" (2.54mm) center. These three circuit transistor sockets are preassembled and ready for soldering to a P.C. Board. The proven double cantilever design eliminates circuit failure due to thermal expansion and/or mechanical tolerances.

Linear movement of the transistor leads in the socket does not affect contact reliability.

Material: Tin-Plated Brass, 94V-2 Rated Nylon

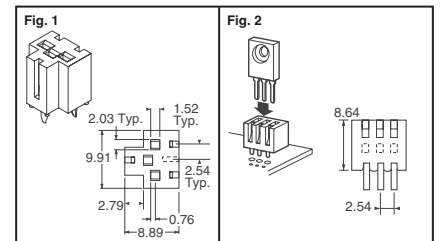


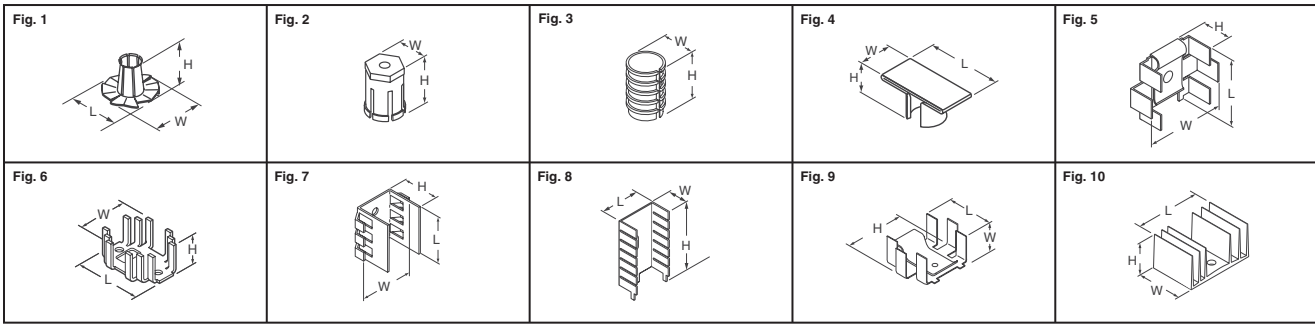
Fig.	Digi-Key Part No.	1	10	100	Molex Part No.
1	WM2550-ND	1.63	1.45	.97	09-48-3031
2	WM2551-ND	2.13	1.89	1.26	10-18-2031

More Product Available Online: [www.digkey.com](http://www.digkey.com)

# CTS Heat Sinks

CTS Electronic Components (California) Inc. has helped pioneer the development of semiconductor heat sinks since 1954. Primarily used by all levels of OEM's engaged in the manufacture of commercial and military equipment, CTS maintains stock and support from prototype through production. CTS has prided themselves for their flexible manufacturing,

quality products and on-time delivery. Clip-On versions have a built-in clip for attaching a device to a heat sink without additional hardware, positive locks prevent the semiconductor from sliding out. TO-220 versions will also fit TO-202, TO-218 and TO-126 packages. Wattage values listed are at still air conduction only. Moving air will increase this value.



C

Fig.	Description	Dimensions - Inch (mm) L x W x H	Thermal Res. C/Watt	Digi-Key Part No.	Price Each			CTS Part No.
					1	10	100	
1	TO-5, Single Fan Top, Black, .5W	.750 x .750 x .250 (19.05 x 19.05 x 6.35)	81.10	294-1122-ND	5.95	5.36	4.17	TXBF-032-025B
	TO-5, Single Fan Top, Unplated, .5W	.750 x .750 x .250 (19.05 x 19.05 x 6.35)	81.10	294-1144-ND	2.33	2.10	1.63	TXBF-032-025U
	TO-18, Single Fan Top, Black, .5W	500 x 500 x .250 (12.70 x 12.70 x 6.35)	150.00	294-1004-ND	5.33	4.80	3.74	TXBF-019-025B
	TO-18, Single Fan Top, Unplated, .5W	500 x 500 x .250 (12.70 x 12.70 x 6.35)	150.00	294-1140-ND	1.48	1.33	1.04	TXBF-019-025U
2	TO-5, Press-On Mount, w/Hardware, Black, 1W	— x .380 x .310 (— x 9.65 x 7.87)	73.17	294-1120-ND	20.43	18.39	14.30	TXB2P-032-037B
	TO-5, Press-On Mount, w/Hardware, Nickel, 1W	— x .380 x .310 (— x 9.65 x 7.87)	73.17	294-1142-ND	24.35	21.92	17.05	TXB2P-032-037ND
	TO-8, Press-On Mount, w/out Hardware, Black, 1W	— x .380 x .310 (— x 9.65 x 7.87)	73.17	294-1118-ND	16.45	14.81	11.52	TXB2-032-037B
	TO-18, Press-On Mount, w/Hardware Black, 5W	— x .220 x .340 (— x 5.59 x 8.64)	150.26	294-1123-ND	39.30	35.37	27.51	TXP1808B
	TO-18, Press-On Mount, w/Hardware, Black, .6W	— x .220 x .280 (— x 5.59 x 7.11)	150.26	294-1119-ND	18.23	16.41	12.76	TXB2P-019-028B
	TO-18, Press-On Mount, w/Hardware, Nickel, .6W	— x .220 x .280 (— x 5.59 x 7.11)	150.26	294-1141-ND	19.45	17.51	13.62	TXB2P-019-028ND
	TO-5, Press-On Mount, Black, 2W	— x .440 x .500 (— x 11.18 x 12.70)	35.00	294-1105-ND	3.23	2.91	2.26	7-120-BA
4	TO-5, Press-On Mount, Black, 1W	.700 x .325 x .250 (17.78 x 8.26 x 6.35)	58.00	294-1106-ND	2.35	2.12	1.65	7-175-BA
5	TO-220, Vertical/Horizontal Clip-on Mount, Black, 1.5W	.810 x 1.00 x .310 (20.57 x 25.40 x 7.87)	140.50	294-1115-ND	1.51	1.36	1.06	PSC2-2CB
6	TO-220, Power Horizontal Mount, Black 2W	1.63 x 1.29 x .750 (41.40 x 32.77 x 19.05)	13.60	294-1113-ND	2.71	2.44	1.90	LAT0127B3CB
	TO-220, Power Horizontal Mount, 8W	1.31 x .90 x .750 (33.27 x 22.86 x 19.05)	17.00	294-1036-ND	2.03	1.83	1.42	LAE66A3CB
7	TO-220, Horizontal/Vertical Mount w/Tabs, Black, 2.5W	.710 x .800 x .500 (18.03 x 20.32 x 12.70)	30.00	294-1107-ND	1.27	1.15	.90	7-361-BA
	TO-220, Horizontal/Vertical Mount w/Tabs, Black, 2W	.710 x .800 x .340 (18.03 x 20.32 x 8.64)	38.00	294-1108-ND	1.27	1.15	.90	7-362-BA
	TO-220, Horizontal Mount, 3W (No Mounting Hole)	1.09 x .620 x 1.31 (27.69 x 15.75 x 33.27)	30.00	294-1013-ND	.66	.52	.39	7-300-000-BA
8	TO-220, Vertical Mount, 3W	.750 x .375 x .750 (19.05 x 9.52 x 19.05)	25.00	294-1011-ND	1.32	.95	.67	7-195-2-BA
	TO-220, Vertical/Horizontal Mount w/Tabs, Nickel, 3W	1.25 x .880 x .250 (31.75 x 22.35 x 6.35)	25.40	294-1114-ND	2.89	2.61	2.03	PSB2-1ND
	TO-220, Vertical PC Mount w/Tabs, 5W	1.00 x 500 x 1.18 (25.40 x 12.70 x 29.97)	20.00	294-1042-ND	1.58	1.42	1.11	PB1-36CB
	TO-220, Vertical PC Mount w/Board Locks	1.00 x 500 x 1.18 (25.40 x 12.70 x 29.97)	28.00	294-1043-ND	4.15	3.74	2.91	PB1ST-69CB
	TO-220, Vertical PC Mount w/Tabs, 6W	.880 x .250 x 1.25 (22.35 x 6.35 x 31.75)	25.40	294-1045-ND	1.81	1.42	1.06	PSB2-1CB
9	TO-220, High Efficiency, 3W	.710 x .310 x 1.00 (18.03 x 7.87 x 25.40)	30.00	294-1040-ND	1.77	1.39	1.04	PA2-1CB
	TO-220, High Efficiency, 4W	.710 x .500 x 1.00 (18.03 x 12.70 x 25.40)	26.80	294-1039-ND	1.78	1.40	1.04	PA1-1CB
	TO-220, Low Profile Clip-On, w/ Antirotation, Black	.810 x .310 x 1.00 (20.57 x 7.87 x 25.40)	40.50	294-1049-ND	1.33	.95	.67	PSC2T-2CB
10	TO-220, Power Vertical Mount, 7W	1.15 x .460 x .750 (29.21 x 11.68 x 19.05)	14.00	294-1034-ND	3.73	3.36	2.62	7-340-1PP-BA
	TO-220, Power Horizontal Mount, 7W	1.15 x .460 x .750 (29.21 x 11.68 x 19.05)	14.00	294-1035-ND	3.74	3.37	2.62	7-340-3PP-BA
	Dual TO-220, Universal Mount, 9W	1.50 x 1.15 x .460 (38.10 x 29.21 x 11.68)	7.00	294-1080-ND	3.32	2.99	2.33	7-340-2PP-BA
11	TO-220, Power Vertical Mount w/Pins, 11W	1.38 x .500 x 1.50 (35.05 x 6.35 x 38.10)	13.00	294-1024-ND	6.93	6.24	4.85	7-338-1PP-BA
	TO-220, Power Vertical Mount w/Pins, 11W	1.65 x 1.00 x 1.50 (41.91 x 25.40 x 38.10)	11.00	294-1029-ND	8.44	7.60	5.91	7-339-1PP-BA
	TO-220, Power Vertical Mount w/Pins, 15W	1.65 x 1.00 x 2.00 (41.91 x 25.40 x 50.80)	5.00	294-1031-ND	8.91	8.02	6.24	7-339-3PP-BA
	TO-220, Power Vertical Mount w/Pins, 17W	1.38 x .500 x 2.50 (35.05 x 6.35 x 63.50)	4.00	294-1027-ND	6.40	5.76	4.48	7-338-4PP-BA
	TO-220, Power Vertical Mount w/Pins, 17W	1.65 x 1.00 x 2.50 (41.91 x 25.40 x 63.50)	4.00	294-1032-ND	9.37	8.44	6.56	7-339-4PP-BA
12	TO-220, Power Horizontal/Vertical Mount, 12W	.750 x 2.00 x .553 (19.05 x 50.80 x 14.05)	9.00	294-1067-ND	3.55	3.20	2.49	7-345-1PP-BA
	TO-220, Power Horizontal Mount, 12W	.750 x 2.00 x .553 (19.05 x 50.80 x 14.05)	9.00	294-1068-ND	3.55	3.20	2.49	7-345-3PP-BA
	Dual TO-220, Power Universal Mount, 15W	1.50 x 2.00 x .553 (38.10 x 50.80 x 14.05)	4.00	294-1082-ND	3.95	3.56	2.77	7-345-2PP-BA
13	Dual TO-220, Vertical w/Tabs, Black, 4W	1.50 x 500 x 1.18 (38.10 x 12.70 x 29.97)	15.00	294-1117-ND	1.13	1.02	.79	PSE1-2CB
14	Triple TO-220, Vertical Mount, 7W	1.61 x .750 x .690 (40.89 x 19.05 x 17.53)	9.00	294-1085-ND	8.55	7.70	5.99	7-342-1PP-BA
	Six TO-220, Horizontal Mount, 15W	1.61 x 1.50 x .690 (40.89 x 38.10 x 17.53)	4.00	294-1086-ND	4.34	3.91	3.04	7-342-2PP-BA
15	TO-3, Power Cap, Spacesaver, 2W	1.56 x 1.06 x .500 (39.62 x 26.92 x 12.70)	32.00	294-1095-ND	6.80	6.12	4.76	7-423-BA
16	TO-3, Power Horizontal Mount, Black, 8W	1.78 x 1.78 x 1.00 (45.21 x 45.21 x 25.40)	7.10	294-1124-ND	3.87	3.49	2.71	UP-T03-CB
	TO-3, Power Horizontal Mount, 15W	2.50 x 2.50 x .900 (63.50 x 63.50 x 22.86)	5.40	294-1088-ND	3.94	3.55	2.76	HP1-T03-CB
17	TO-3, Power Horizontal Mount, 12W	1.63 x 1.29 x 1.25 (41.40 x 32.77 x 31.75)	11.10	294-1092-ND	3.99	3.59	2.79	LA36385CB
18	Various Semiconductor, Adhesive Backed	.910 x .910 x .355 (23.11 x 23.11 x 9.02)	26.90	294-1097-ND	2.95	2.66	2.07	BDN09-3CB/A01
	Various Semiconductor, Adhesive Backed	1.01 x 1.01 x .355 (25.65 x 25.65 x 9.02)	26.40	294-1098-ND	3.03	2.73	2.12	BDN10-3CB/A01
	Various Semiconductor, Adhesive Backed	1.11 x 1.11 x .355 (28.19 x 28.19 x 9.02)	20.90	294-1109-ND	3.05	2.75	2.14	BDN11-3CB/A01
	Various Semiconductor, Adhesive Backed	1.21 x 1.21 x .355 (30.73 x 30.73 x 9.02)	19.60	294-1099-ND	3.15	2.84	2.21	BDN12-3CB/A01
	Various Semiconductor, Adhesive Backed	1.21 x 1.21 x .555 (30.73 x 30.73 x 14.10)	16.50	294-1110-ND	3.35	3.02	2.35	BDN12-5CB/A01

• RoHS Compliant

(Continued)

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