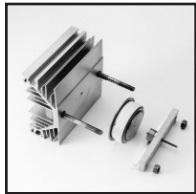


PRECISION COMPRESSION MOUNTING CLAMP SYSTEMS



139 SERIES *Compression mounting clamp assemblies for semiconductors to 3.50 in. (88.9 mm) Diameter*

139 SERIES CROSSBAR
3,000 lb - 5,000 lb, (1,360.8 kg - 2,268.0 kg), Crossbar Device Mounting, Surface to Spring Assembly, Top Surface Dimension

139-3 SERIES CROSSBAR - 3,000 LB (1,360.8)				139-5 SERIES CROSSBAR - 5,000 LB (2,268.0)			
Model No.	"X" Dimension		Weight lbs. (grams)	Model No.	"X" Dimension		Weight lbs. (grams)
	Min in. (mm)	Max			Min in. (mm)	Max	
139-3A	1.52 (38.6)	1.89 (48.0)	0.689 (312.52)	139-5A	1.52 (38.6)	1.89 (48.0)	0.94 (426.38)
139-3B	1.83 (46.5)	2.21 (56.1)	0.7 (317.51)	139-5B	1.83 (46.5)	2.21 (56.1)	0.96 (435.45)
139-3C	2.14 (54.4)	2.52 (64.0)	0.706 (320.24)	139-5C	2.14 (54.4)	2.52 (64.0)	0.98 (444.52)
139-3D	2.45 (62.2)	2.83 (71.9)	0.721 (327.04)	139-5D	2.45 (62.2)	2.83 (71.9)	1.01 (458.13)
139-3E	2.77 (70.4)	3.14 (79.8)	0.732 (332.03)	139-5E	2.77 (70.4)	3.14 (79.8)	1.02 (462.66)
139-3F	3.08 (78.2)	3.45 (87.6)	0.741 (336.11)	139-5F	3.08 (78.2)	3.45 (87.6)	1.033 (468.56)
139-3G	3.39 (86.1)	3.77 (95.8)	0.762 (345.64)	139-5G	3.39 (86.1)	3.77 (95.8)	1.053 (477.63)
139-3H	3.70 (94.0)	4.08 (103.6)	0.773 (350.63)	139-5H	3.70 (94.0)	4.08 (103.6)	1.074 (487.64)
130-3J	4.01 (101.9)	4.39 (111.5)	0.784 (355.62)	139-5J	4.33 (101.9)	4.39 (111.5)	1.064 (482.62)
139-3K	4.33 (110.0)	4.70 (119.4)	0.79 (358.34)	139-5K	4.33 (110.0)	4.70 (119.4)	1.075 (487.61)
139-3L	4.64 (117.9)	5.01 (127.3)	0.793 (359.70)	139-5L	4.64 (117.9)	5.01 (127.3)	1.088 (493.51)
139-3M	4.95 (125.7)	5.33 (135.4)	0.796 (361.06)	139-5M	4.95 (125.7)	5.33 (135.4)	1.102 (499.86)
139-3N	5.26 (133.6)	5.64 (143.3)	0.832 (377.39)	139-5N	5.26 (133.6)	5.64 (143.3)	1.11 (503.49)
139-3P	5.57 (141.5)	5.95 (151.1)	0.838 (380.11)	139-5P	5.57 (141.5)	5.95 (151.1)	1.171 (531.16)

CROSSBAR HEIGHT AND WIDTH

Series Number	Height "A" Reference in. (mm)	Width "B" Reference in. (mm)
139-3	0.72 (18.3)	0.95 (24.1)
139-5	1.02 (25.9)	0.83 (21.1)

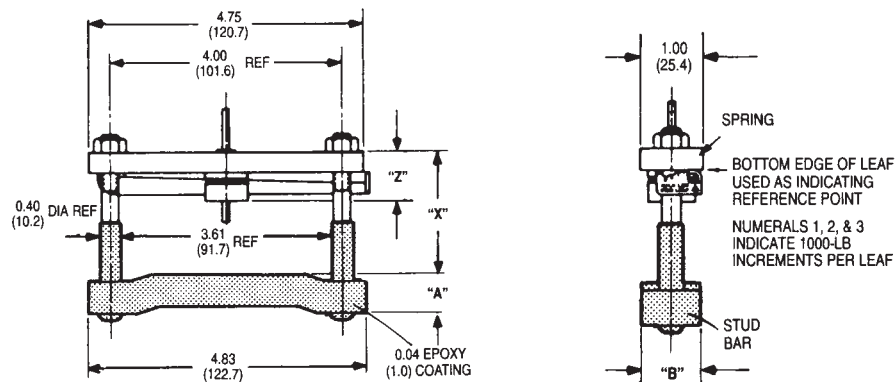
Order Guide:
 Order Crossbar and Spring Assembly separately by type number from table.

Dimensions:
 in. (mm)
 lb. (kg)

139 SERIES SPRING ASSEMBLY

Model Number	Number of Leaves	"Z" Dimension in. (mm)	Maximum Force lb. (kg)
139-1	1	0.87(22.1)	3,000 (1,360.8)
139-2	2	1.25(31.8)	5,000 (2,268.0)

MECHANICAL DIMENSIONS



Dimensions: in. (mm)



PRECISION COMPRESSION MOUNTING CLAMP SYSTEMS

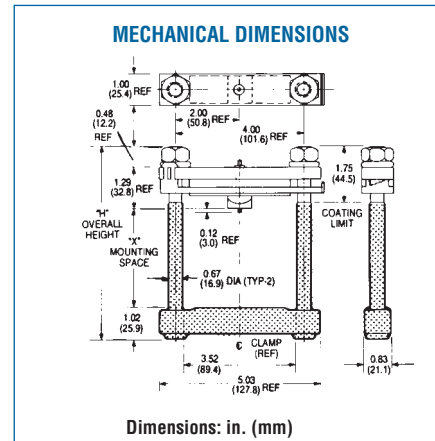


143 SERIES *Compression Mounting Clamp Assemblies for Semiconductors to 3.50 in (88.9 mm) Diameter*

143 SERIES CROSSBAR
2,000 lb - 6,000 lb (907.2 kg - 2,721.6 kg)

Crossbar Device Mounting, Surface to Spring Assembly, Top Surface Dimension

Model No.	"X" Dimension		Overall Height "H" In. (mm)	Weight lbs. (grams)
	Min	Max		
143-A	1.30 (33.0)	1.80 (45.7)	4.68 (118.9)	1.100 (498.95)
143-B	1.86 (45.7)	2.30 (58.4)	5.18 (131.6)	1.125 (510.29)
143-C	2.30 (58.4)	2.80 (71.1)	5.68 (144.3)	1.150 (521.63)
143-D	2.80 (71.1)	3.30 (83.8)	6.18 (157.0)	1.175 (532.97)
143-E	3.30 (83.8)	3.80 (96.5)	6.68 (169.7)	1.200 (544.31)
143-F	3.80 (96.5)	4.30 (109.2)	7.18 (182.4)	1.225 (555.65)
143-G	4.30 (109.2)	4.80 (121.9)	1.68 (195.1)	1.250 (566.99)
143-H	4.80 (121.9)	5.30 (134.6)	8.18 (207.8)	1.275 (578.33)
143-J	5.30 (134.6)	5.80 (147.3)	8.68 (220.5)	1.300 (589.67)
143-K	5.80 (147.3)	6.30 (160.0)	9.18 (233.2)	1.325 (601.00)
143-L	6.30 (160.0)	6.80 (172.7)	9.68 (245.9)	1.350 (612.35)



143 SERIES SPRING ASSEMBLY

Model Number	Number of Leaves	Max. Clamping Force lb. (kg)	Weight lb. (grams)
143-2	2	6,000 (2,721.6)	0.813 (368.77)

Order Guide:
Order Crossbar and Spring Assembly separately by type number from table.

Dimensions:
in. (mm)
lb. (kg)



144 SERIES *Compression Mounting Clamp Assemblies for Semiconductors to 4.00 in (101.6mm) Diameter*

144 SERIES CROSSBAR
1,000 lb - 6,000 lb (453.6 kg - 2,721.6 kg)

Crossbar Device Mounting, Surface to Spring Assembly
Top Surface Dimension

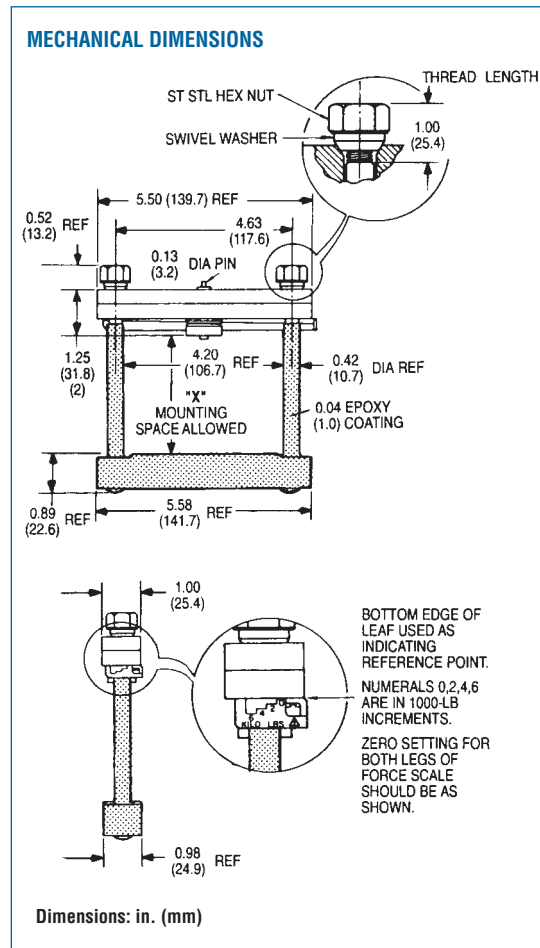
Model No.	"X" Dimension		Weight lbs (grams)
	Min	Max	
144-A	1.50 (38.1)	2.00 (50.8)	1.231 (558.37)
144-B	2.00 (50.8)	2.50 (63.5)	1.262 (572.43)
144-C	2.50 (63.5)	3.00 (63.5)	1.285 (582.87)
144-D	3.00 (76.2)	3.50 (88.9)	1.310 (594.21)
144-E	3.50 (88.9)	4.00 (101.6)	1.352 (613.26)

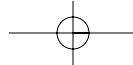
144 SERIES SPRING ASSEMBLY

Model No.	Clamping Force Range lb (kg)	Weight lbs (grams)
144-2	1,000 (453.6) - 6,000 (2,721)	1.772 (803.77)

Order Guide:
Order Crossbar and Spring Assembly separately by type number from table.

Dimensions:
in. (mm)
lb. (kg)





Precision Compression Clamp Systems



PRECISION COMPRESSION MOUNTING CLAMP SYSTEMS



145 SERIES

Compression Mounting Clamp Assemblies for Semiconductors to 4.50 in (114.3 mm) Diameter

145 SERIES CROSSBAR
2,000 lb - 10,000 lb (907.2 kg - 4,535.9 kg)

Crossbar Device Mounting, Surface to Spring Assembly, Top Surface Dimension

Model No.	"X" Dimension		Overall Height "H" In. (mm)	Weight lbs. (grams)
	Min In. (mm)	Max In. (mm)		
145-A	1.75 (44.5)	2.50 (63.5)	6.00 (152.4)	3.845 (1744.06)
145-B	2.50 (63.5)	3.25 (82.6)	6.75 (171.5)	3.987 (1808.47)
145-C	3.25 (82.6)	4.00 (101.6)	7.50 (190.5)	4.06 (1841.58)
145-D	4.00 (101.6)	4.75 (120.7)	8.25 (209.6)	4.187 (1899.19)
145-E	4.75 (120.7)	5.50 (139.7)	9.00 (228.6)	4.37 (1982.20)
145-F	5.50 (139.7)	6.25 (158.8)	9.75 (247.7)	4.459 (2022.57)

145 SERIES SPRING ASSEMBLY

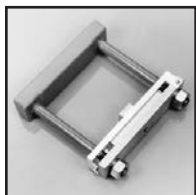
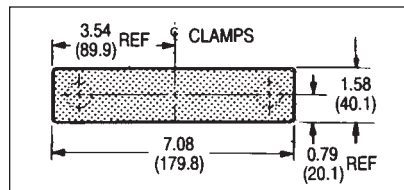
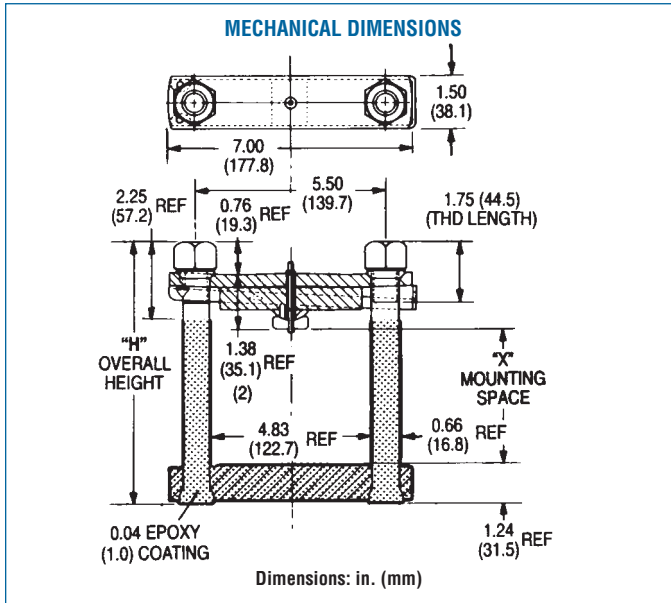
Model No.	Clamping Force Range lb (kg)	Weight lbs (grams)

Order Guide:

Order Crossbar and Spring Assembly separately by type number from table.

Dimensions:

in. (mm)
lb. (kg)



146 SERIES

Compression Mounting Clamp Assemblies for Semiconductors to 5.25 in (133.5 mm) Diameter

146 SERIES CROSSBAR
8,000 lb - 16,000 lb (3,628.7 kg - 7,257.4 kg)

Crossbar Device Mounting, Surface to Spring Assembly, Top Surface Dimension

Model No.	"X" Dimension		Overall Height "H" In. (mm)	Weight lbs. (grams)
	Min In. (mm)	Max In. (mm)		
146-A	1.54 (39.1)	2.29 (58.2)	5.92 (150.4)	3.813 (1729.55)
146-B	2.29 (58.2)	3.04 (77.2)	6.67 (169.4)	3.938 (1786.25)
146-C	3.04 (77.2)	3.79 (96.3)	7.42 (188.5)	4.063 (1842.95)
146-D	3.79 (96.3)	4.54 (115.3)	8.17 (207.5)	4.188 (1899.64)
146-E	4.54 (115.3)	5.29 (134.4)	8.92 (226.6)	4.313 (1956.34)
146-F	5.29 (134.4)	6.04 (153.4)	9.67 (245.6)	4.438 (2013.04)
146-G	6.04 (153.4)	6.79 (172.5)	10.42 (264.7)	4.563 (2069.74)

146 SERIES SPRING ASSEMBLY

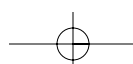
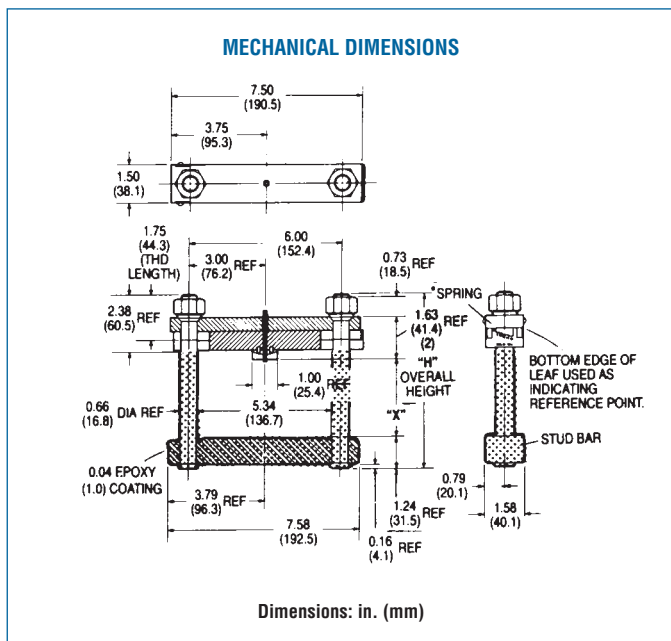
Model Number	Number of Leaves	Clamping Force Range lb (kg)	Maximum Force lb (grams)

Order Guide:

Order Crossbar and Spring Assembly separately by type number from table.

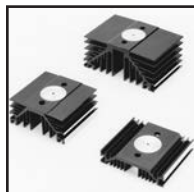
Dimensions:

in. (mm)
lb. (kg)



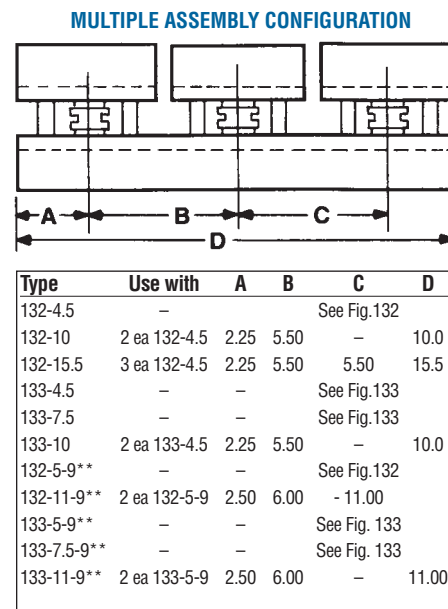


132/133 SERIES HIGH-PERFORMANCE HEAT SINKS FOR COMPRESSION TYPE DEVICES



132/133 SERIES
Dimensions: in.(mm)
Finish: B = Black Anodized
 G = Gold Iridite
Material: Aluminum Alloy

Standard P/N		Nominal Dimensions: (1)			Clamp System Series(5)	Thermal Performance at Typical Load (2)	
Black Anodize(4,5)	Gold Iridite	Width in. (mm)	Length "A" in. (mm)	Height in. (mm)		Natural Convection (°C/W)(3)	Convection (°C/W) @ 500 LFM
132-4.5B	132-4.5G	5.000 (127.0)	4.500 (114.3)	2.250 (57.2)	130	0.61	0.170
132-10B	132-10G	5.000 (127.0)	10.000 (254.0)	2.250 (57.2)	130	0.38	0.130
132-15.5B	132-15.5G	5.000 (127.0)	15.500 (393.7)	2.250 (57.2)	130	0.28	0.100
132-5-B9	132-5-G9	5.000 (127.0)	5.000 (127.0)	2.250 (57.2)	139	0.61	0.170
132-11-B9	132-11-G9	5.000 (127.0)	11.000 (299.4)	2.250 (57.2)	139	0.37	0.120
133-4.5B	133-4.5G	7.000 (139.2)	4.500 (114.3)	3.125 (79.4)	130	0.37	0.110
133-7.5B	133-7.5G	7.000 (139.2)	7.500 (190.5)	3.125 (79.4)	130	0.28	0.085
133-10B	133-10G	7.000 (139.2)	10.000 (254.0)	3.125 (79.4)	130	0.26	0.082
133-5-B9	133-5-G9	7.000 (139.2)	5.000 (127.0)	3.125 (79.4)	139	0.37	0.110
133-7.5-B9	133-7.5-G9	7.000 (139.2)	7.500 (190.5)	3.125 (79.4)	139	0.28	0.085
133-11-B9	133-11-G9	7.000 (139.2)	11.000 (279.4)	3.125 (79.4)	139	0.24	0.076

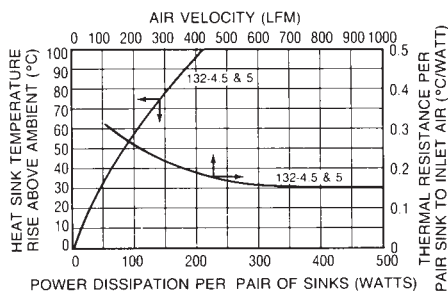


Notes:

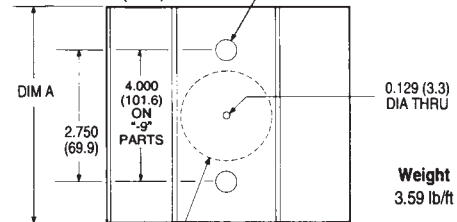
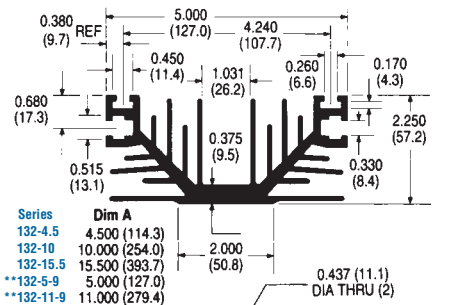
- Nominal dimensions for one heat sink of this type.
- Thermal performance values shown are per pair of heat sinks.
- Natural convection performance at 50°C heat sink rise above ambient.
- Black anodize finish [1.875 in. (47.6 mm) diameter spot face. Device mounting surface area free of finish].
- Predrilled heat sinks accept 130 and 139 Series clamp systems.

** -9 indicates heat sinks drilled for 139 clamp.

132 SERIES NATURAL AND FORCED CONVECTION CHARACTERISTICS



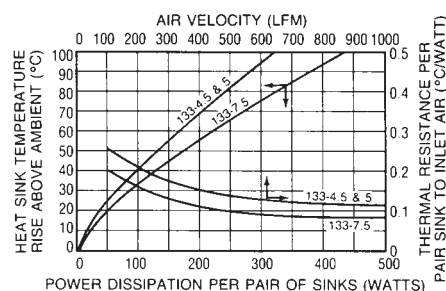
MECHANICAL DIMENSIONS (EXTRUSION PROFILE 3560-2)



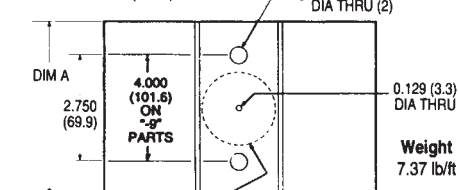
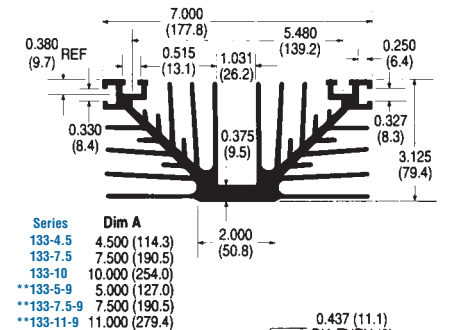
*1.875 (47.6) DIA MACHINED FLAT WITHIN 0.0015 (0.04) TIR FREE OF FINISH ON BLACK ANODIZE PARTS ONLY
 **SURFACES FREE OF FINISH ON "B" PARTS
 **4.000 (101.6) ON "-9" PARTS

Dimensions: in. (mm)

133 SERIES NATURAL AND FORCED CONVECTION CHARACTERISTICS



MECHANICAL DIMENSIONS (EXTRUSION PROFILE 3559-2)



*1.875 (47.6) DIA MACHINED FLAT WITHIN 0.0015 (0.04) TIR FREE OF FINISH ON BLACK ANODIZE PARTS ONLY
 **SURFACES FREE OF FINISH ON "B" PARTS
 **4.000 (101.6) ON "-9" PARTS