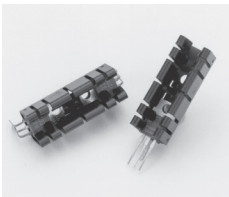


BOARD LEVEL POWER SEMICONDUCTOR HEAT SINKS



233 & 236 SERIES

SELF-LOCKING WAVE-SOLDERABLE HEAT SINKS

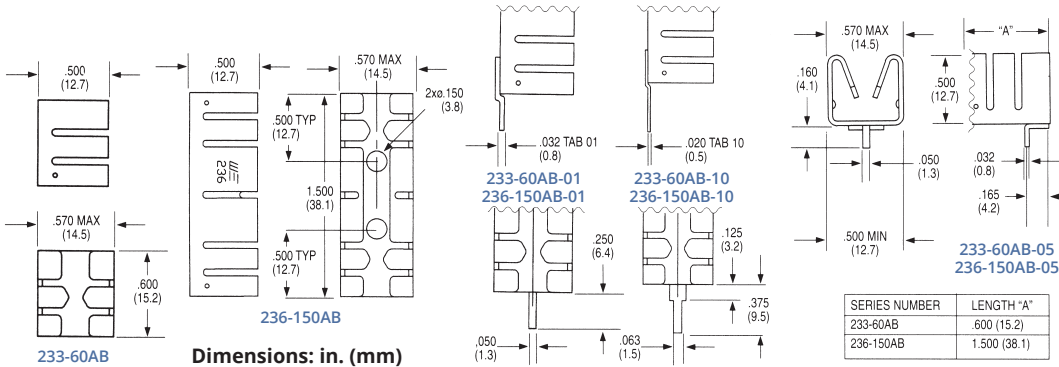
TO-220

PATENT  
PENDING

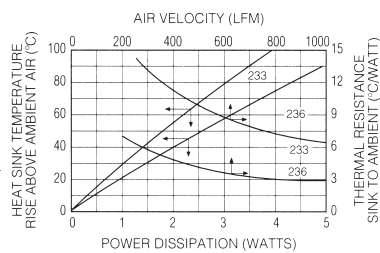
| Standard P/N  | Height Above PC Board in. (mm) | Footprint Dimensions in. (mm) | Mounting Configuration | Solderable Tab Options | Mounting Style | Thermal Performance at Typical Load |                    |
|---------------|--------------------------------|-------------------------------|------------------------|------------------------|----------------|-------------------------------------|--------------------|
|               |                                |                               |                        |                        |                | Natural Convection                  | Forced Convection  |
| 233-60AB      | .600(15.2)                     | .570 (14.5) x .500 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 58°C @ 2W                           | 11.0°C/W @ 400 LFM |
| 233-60ABE-01  | .600(15.2)                     | .570 (14.5) x .500 (12.7)     | Vertical               | 01                     | Clip/Mtg Hole  | 58°C @ 2W                           | 11.0°C/W @ 400 LFM |
| 233-60ABE-05  | .500(12.7)                     | .600 (15.2) x .570 (14.5)     | Horizontal             | 05                     | Clip/Mtg Hole  | 58°C @ 2W                           | 11.0°C/W @ 400 LFM |
| 233-60ABE-10  | .725(18.4)                     | .570 (14.5) x .500 (12.7)     | Vertical               | 10                     | Clip/Mtg Hole  | 58°C @ 2W                           | 11.0°C/W @ 400 LFM |
| 236-150AB     | 1.500(38.1)                    | .570 (14.5) x .500 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 40°C @ 2W                           | 4.80°C/W @ 400 LFM |
| 236-150ABE-01 | 1.500(38.1)                    | .570 (14.5) x .500 (12.7)     | Vertical               | 01                     | Clip/Mtg Hole  | 40°C @ 2W                           | 4.80°C/W @ 400 LFM |
| 236-150ABE-05 | .500(12.7)                     | 1.500 (38.1) x .570 (14.5)    | Horizontal             | 05                     | Clip/Mtg Hole  | 40°C @ 2W                           | 4.80°C/W @ 400 LFM |
| 236-150ABE-10 | 1.625(41.3)                    | .570 (14.5) x .570 (12.7)     | Vetrical               | 10                     | Clip/Mtg Hole  | 40°C @ 2W                           | 4.80°C/W @ 400 LFM |

**Material:** Aluminum, Black Anodized

MECHANICAL DIMENSIONS



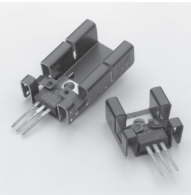
NATURAL AND FORCED CONVECTION CHARACTERISTICS



COMPACT, STRESS-FREE LABOR-SAVING  
LOCKING-TAB HEAT SINKS

TO-220

275 & 231 SERIES



PATENT  
5381041

| Standard P/N    | Height Above PC Board in. (mm) | Footprint Dimensions in. (mm) | Mounting Configuration | Solderable Tab Options | Mounting Style | Thermal Performance at Typical Load |                   |
|-----------------|--------------------------------|-------------------------------|------------------------|------------------------|----------------|-------------------------------------|-------------------|
|                 |                                |                               |                        |                        |                | Natural Convection                  | Forced Convection |
| 275-75AB        | .750 (19.1)                    | .835 (21.2) x .400 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 44 C @ 2W                           | 7.9°C/W @ 400 LFM |
| 275-75ABE-01    | .750 (19.1)                    | .835 (21.2) x .400 (12.7)     | Vertical               | 01                     | Clip/Mtg Hole  | 44°C @ 2W                           | 7.9°C/W @ 400 LFM |
| 275-75ABE-10    | .875 (12.7)                    | .835 (21.2) x .400 (14.5)     | Vertical               | 10                     | Clip/Mtg Hole  | 44°C @ 2W                           | 7.9°C/W @ 400 LFM |
| 231-69PAB       | .690 (18.4)                    | .835 (21.2) x .400 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 45°C @ 2W                           | 8°C/W @ 400 LFM   |
| 231-69PABE      | .400 (10.1)                    | .690 (17.5) x .835 (12.7)     | Horizontal             | 13H                    | Clip/Mtg Hole  | 45°C @ 2W                           | 8°C/W @ 400 LFM   |
| 231-69PABE-XXX  | .690 (17.5)                    | .835 (21.2) x .400 (12.7)     | Vertical               | 13V, 14V, 15V          | Clip/Mtg Hole  | 45°C @ 2W                           | 8°C/W @ 400 LFM   |
| 231-75PAB       | .750 (19.1)                    | .835 (21.2) x .400 (14.5)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 43°C @ 2W                           | 7.9°C/W @ 400 LFM |
| 231-75PABE      | .400 (10.1)                    | .750 (19.1) x .835 (12.7)     | Horizontal             | 13H                    | Clip/Mtg Hole  | 43°C @ 2W                           | 7.9°C/W @ 400 LFM |
| 231-75PABE-XXX  | .750 (19.1)                    | .835 (21.2) x .400 (12.7)     | Vertical               | 13V, 14V, 15V          | Clip/Mtg Hole  | 43°C @ 2W                           | 7.9°C/W @ 400 LFM |
| 231-137PAB      | 1.375 (35)                     | .835 (21.2) x .400 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 32°C @ 2W                           | 5.9°C/W @ 400 LFM |
| 231-137PABE     | 400 (10.2)                     | 1.375 (34.9) x .835 (12.7)    | Horizontal             | 13H                    | Clip/Mtg Hole  | 32°C @ 2W                           | 5.9°C/W @ 400 LFM |
| 231-137PABE-XXX | 1.375 (35)                     | .835 (21.2) x .400 (12.7)     | Vertical               | 13V, 14V, 15V          | Clip/Mtg Hole  | 32°C @ 2W                           | 5.9°C/W @ 400 LFM |

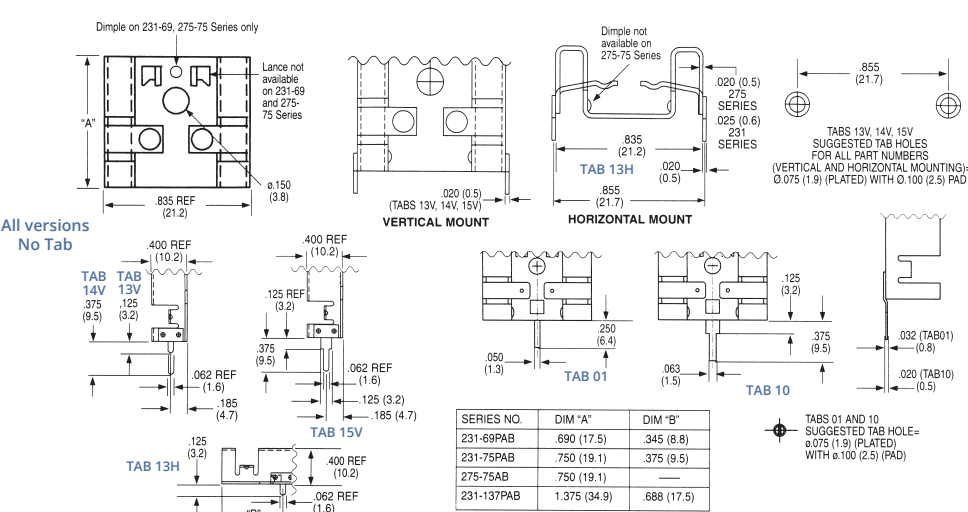
**Material:** Aluminum, Pre-anodized Black (PAB), Anodized Black (AB)

COMPACT, STRESS-FREE LABOR-SAVING  
LOCKING-TAB HEAT SINKS

TO-220

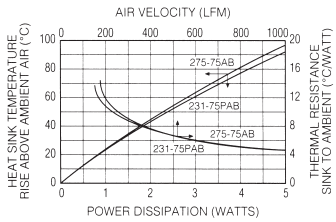
275 & 231 SERIES

MECHANICAL DIMENSIONS

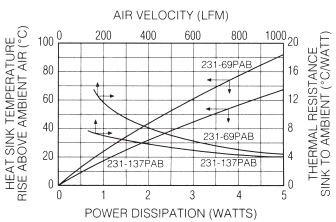


Dimensions: in. (mm)

NATURAL AND FORCED CONVECTION CHARACTERISTICS



NATURAL AND FORCED CONVECTION CHARACTERISTICS



235 SERIES

COMPACT, STRESS-FREE LABOR-SAVING  
LOCKING-TAB HEAT SINKS

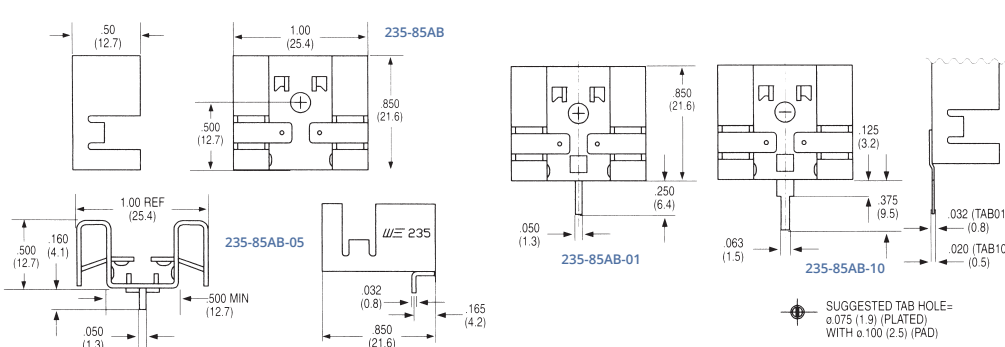
TO-220

PATENT  
5381041

| Standard P/N | Height Above PC Board in. (mm) | Footprint Dimensions in. (mm) | Mounting Configuration | Solderable Tab Options | Mounting Style | Thermal Performance at Typical Load |                   |
|--------------|--------------------------------|-------------------------------|------------------------|------------------------|----------------|-------------------------------------|-------------------|
|              |                                |                               |                        |                        |                | Natural Convection                  | Forced Convection |
| 235-85AB     | .850 (21.6)                    | 1.000 (25.4) x.500 (12.7)     | Vert./Horiz.           | No Tab                 | Clip/Mtg Hole  | 40°C @ 2W                           | 6.8°C/W @ 400 LFM |
| 235-85ABE-01 | .850 (21.6)                    | 1.000 (25.4) x.500 (12.7)     | Vertical               | 01                     | Clip/Mtg Hole  | 40°C @ 2W                           | 6.8°C/W @ 400 LFM |
| 235-85ABE-05 | .500 (12.7)                    | .850 (21.6) x1.000 (25.4)     | Horizontal             | 05                     | Clip/Mtg Hole  | 40°C @ 2W                           | 6.8°C/W @ 400 LFM |
| 235-85ABE-10 | .975 (24.8)                    | 1.000 (25.4) x.500 (12.7)     | Vertical               | 10                     | Clip/Mtg Hole  | 40°C @ 2W                           | 6.8°C/W @ 400 LFM |

**Material:** Aluminum, Black Anodized

MECHANICAL DIMENSIONS



Dimensions: in. (mm)

NATURAL AND FORCED CONVECTION CHARACTERISTICS

