

12 mm Square Two-in-One
Rotary Potentiometers (Dual Type)

Japan
Malaysia



Type: **EVJC/EVJY**

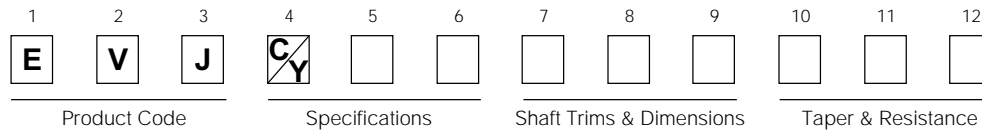
■ Features

- Rectangular-shaped, automatic mounting type
- High tactile feedback
- Available for automatic dip soldering (Flux-proof structure)
- Highly reliable and dust-proof

■ Recommended Applications

- Audio Equipment
- Video Equipment
- Electronic Musical Instruments

■ Explanation of Part Numbers

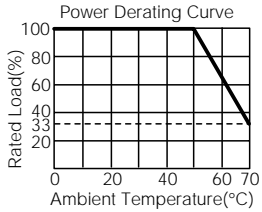


■ Product Chart

| Installation direction | Style | Height (H=mm) | Applications | Detent | Type |
|------------------------|-----------------|----------------|----------------|----------------|--------|
| Horizontal | Without bushing | 10.0 | Volume control | Without detent | EVJC00 |
| | | | Tone control | Without detent | EVJC30 |
| | | | | Midpoint | EVJC31 |
| | | 12.5 | Volume control | Without detent | EVJC90 |
| | | | Tone control | Without detent | EVJC40 |
| | | | | Midpoint | EVJC41 |
| | With bushing | 10.0 | Volume control | Without detent | EVJC20 |
| | | | Tone control | Without detent | EVJC50 |
| | | | | Midpoint | EVJC51 |
| | | 12.5 | Volume control | Without detent | EVJCB0 |
| | | | Tone control | Without detent | EVJCH0 |
| | | | | Midpoint | EVJCH1 |
| With sleeve | 10.0 | Volume control | Without detent | EVJC25 | |
| | | Tone control | Without detent | EVJC55 | |
| | | | Midpoint | EVJC56 | |
| | 12.5 | Volume control | Without detent | EVJCB5 | |
| | | Tone control | Without detent | EVJCH5 | |
| | | | Midpoint | EVJCH6 | |
| Vertical | Without bushing | — | Volume control | Without detent | EVJY00 |
| | | | Tone control | Without detent | EVJY80 |
| | | | | Midpoint | EVJY81 |
| | With bushing | — | Volume control | Without detent | EVJY10 |
| | | | Tone control | Without detent | EVJY90 |
| | | | | Midpoint | EVJY91 |
| | With sleeve | — | Volume control | Without detent | EVJY15 |
| | | | Tone control | Without detent | EVJY95 |
| | | | | Midpoint | EVJY96 |

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■ Specifications

| Classification | Item | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|-----------------------------|----------------------------|------------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|------------|-------------|------|---|---------|---------|---|---|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|-----------|--|-----------|-----------|-----------|--|-----------|--------------------|-----------|--|-----------|-----------|-----------|--|-----------|---------------------|------------|--|------------|-----------|------------|--|-----------|
| Applications | 12 mm square Two-in-One | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mechanical Specifications | Rotation Angle | 300 ° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rotation Torque | 2 mN·m to 20 mN·m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Stopper Strength | 0.5 N·m min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Pull/Push Strength | 80 N min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shaft Inclination (Measured at the top of the shaft) | 0.35 mm max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bushing-Nut Tightening Torque | 1 N·m max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical Specifications | Nominal Total Resistance | 5 kΩ to 500 kΩ (Tolerance ±20 %) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Taper | A, B, C, D, G, BH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Power Rating | <p>0.05 W (0 °C to 50 °C) For potentiometers operating in ambient temperatures above 50 °C, Rating should be derated in accordance with the figure on the right.</p>  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Residual Resistance | <table border="1"> <thead> <tr> <th rowspan="2">Type Taper & Terminal</th> <th colspan="4">For general purpose (tone)</th> <th colspan="4">For volume control</th> </tr> <tr> <th>A, B, D, G</th> <th>B, C, G</th> <th>A, D</th> <th>C</th> <th>A, B, D</th> <th>A, B, D</th> <th>C</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>Nominal Total Resistance</td> <td>1 to 2</td> <td>2 to 3</td> <td>2 to 3</td> <td>1 to 2</td> <td>1 to 2</td> <td>2 to 3</td> <td>1 to 2</td> <td>2 to 3</td> </tr> <tr> <td>5 kΩ < R < 50 kΩ</td> <td colspan="2">25 Ω max.</td> <td>25 Ω max.</td> <td>15 Ω max.</td> <td colspan="2">25 Ω max.</td> <td>20 Ω max.</td> </tr> <tr> <td>50 kΩ < R < 250 kΩ</td> <td colspan="2">25 Ω max.</td> <td>50 Ω max.</td> <td>15 Ω max.</td> <td colspan="2">50 Ω max.</td> <td>20 Ω max.</td> </tr> <tr> <td>250 kΩ < R < 500 kΩ</td> <td colspan="2">100 Ω max.</td> <td>100 Ω max.</td> <td>50 Ω max.</td> <td colspan="2">100 Ω max.</td> <td>50 Ω max.</td> </tr> </tbody> </table> | Type Taper & Terminal | For general purpose (tone) | | | | For volume control | | | | A, B, D, G | B, C, G | A, D | C | A, B, D | A, B, D | C | C | Nominal Total Resistance | 1 to 2 | 2 to 3 | 2 to 3 | 1 to 2 | 1 to 2 | 2 to 3 | 1 to 2 | 2 to 3 | 5 kΩ < R < 50 kΩ | 25 Ω max. | | 25 Ω max. | 15 Ω max. | 25 Ω max. | | 20 Ω max. | 50 kΩ < R < 250 kΩ | 25 Ω max. | | 50 Ω max. | 15 Ω max. | 50 Ω max. | | 20 Ω max. | 250 kΩ < R < 500 kΩ | 100 Ω max. | | 100 Ω max. | 50 Ω max. | 100 Ω max. | | 50 Ω max. |
| | Type Taper & Terminal | For general purpose (tone) | | | | For volume control | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | A, B, D, G | B, C, G | A, D | C | A, B, D | A, B, D | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Nominal Total Resistance | 1 to 2 | 2 to 3 | 2 to 3 | 1 to 2 | 1 to 2 | 2 to 3 | 1 to 2 | 2 to 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 kΩ < R < 50 kΩ | 25 Ω max. | | 25 Ω max. | 15 Ω max. | 25 Ω max. | | 20 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 kΩ < R < 250 kΩ | 25 Ω max. | | 50 Ω max. | 15 Ω max. | 50 Ω max. | | 20 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 kΩ < R < 500 kΩ | 100 Ω max. | | 100 Ω max. | 50 Ω max. | 100 Ω max. | | 50 Ω max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Attenuation (for volume control, taper A, B, D) | <table border="1"> <thead> <tr> <th>Nominal total resistance</th> <th>Max. Attenuation</th> <th>Insertion loss</th> </tr> </thead> <tbody> <tr> <td>5 kΩ < R < 10 kΩ</td> <td>-65 dB max.</td> <td rowspan="4">0.1 dB max.</td> </tr> <tr> <td>10 kΩ < R < 50 kΩ</td> <td>-72 dB max.</td> </tr> <tr> <td>50 kΩ < R < 100 kΩ</td> <td>-82 dB max.</td> </tr> <tr> <td>100 kΩ < R</td> <td>-92 dB max.</td> </tr> </tbody> </table> | Nominal total resistance | Max. Attenuation | Insertion loss | 5 kΩ < R < 10 kΩ | -65 dB max. | 0.1 dB max. | 10 kΩ < R < 50 kΩ | -72 dB max. | 50 kΩ < R < 100 kΩ | -82 dB max. | 100 kΩ < R | -92 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal total resistance | Max. Attenuation | Insertion loss | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 kΩ < R < 10 kΩ | -65 dB max. | 0.1 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 kΩ < R < 50 kΩ | -72 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 kΩ < R < 100 kΩ | -82 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 kΩ < R | -92 dB max. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tracking | For volume control within ±3 dB at -40 to 0 dB For Tone control within ±3 dB at midpoint | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Resistance | 100 MΩ min. at 250 Vdc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dielectric Withstand Voltage | 300 Vac for 1 minute | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Noise Level | 47 mV max. Apply 20 V (When Voltage Rating < 20 V, use the rated voltage.) Rotate shaft at 30 r/min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endurance | Operating Life *1 | 15000 cycles min. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Quantity/Packing Unit *2 | 80 pcs. (Tray Pack) | L ≤ 20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 pcs. (Tray Pack) | L > 20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packing Unit *2 | 800 pcs. | L ≤ 20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 600 pcs. | L > 20.0 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*1 : No direct current should be applied.

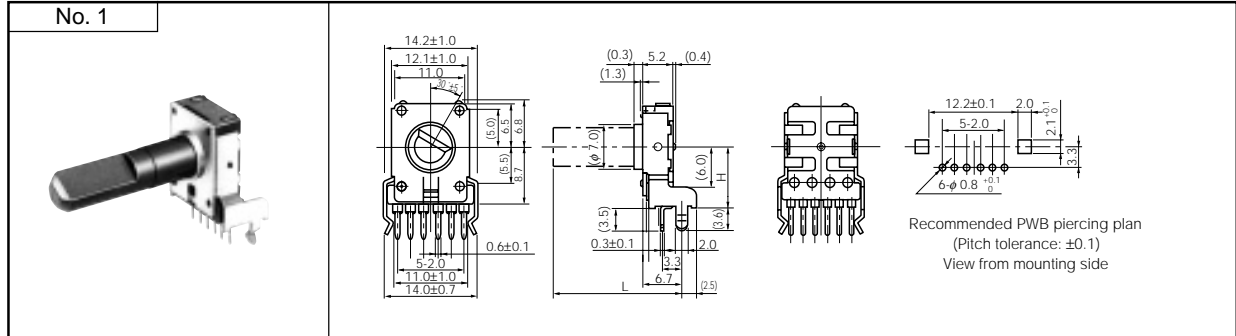
*2 : With bushing : L=L+7.5 mm

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■ Dimensions in mm (not to scale)

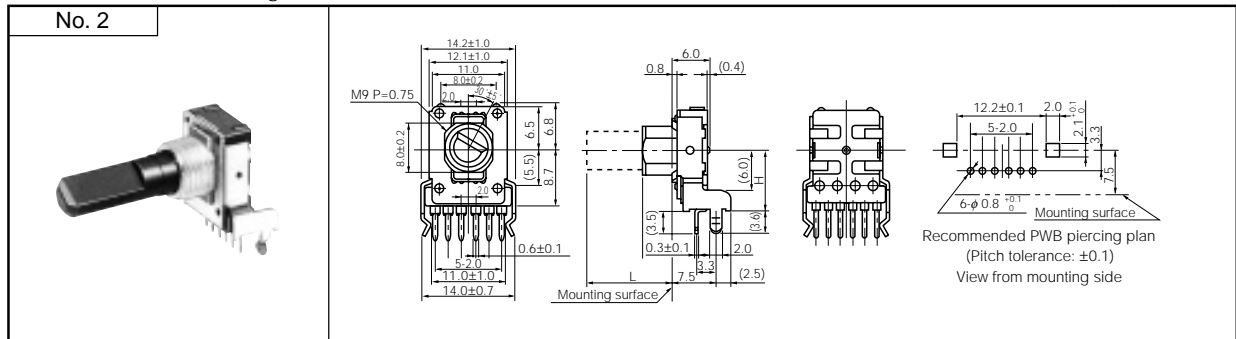
for Volume : EVJC00, EVJC90
 for Tone : EVJC30, EVJC40 (without detent)
 EVJC31, EVJC41 (with detent)

● Horizontal, without Bushing



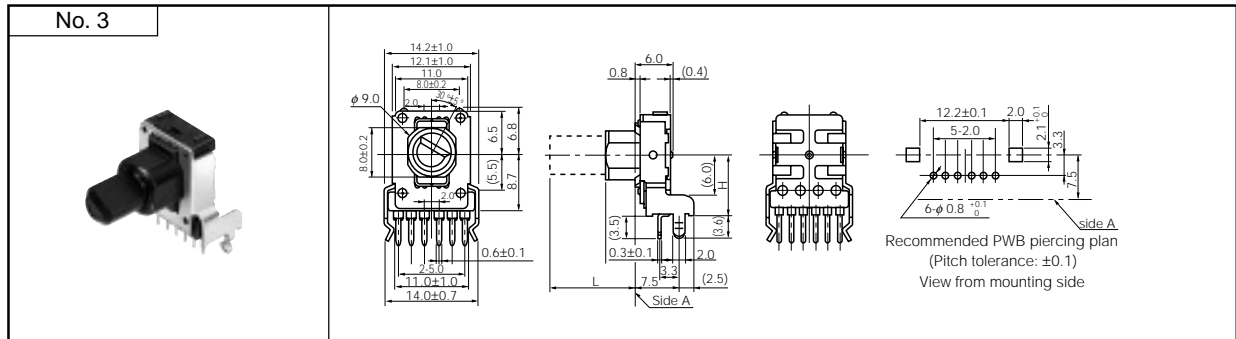
for Volume : EVJC20, EVJCB0
 for Tone : EVJC50, EVJCH0 (without detent)
 EVJC51, EVJCH1 (with detent)

● Horizontal, with Bushing



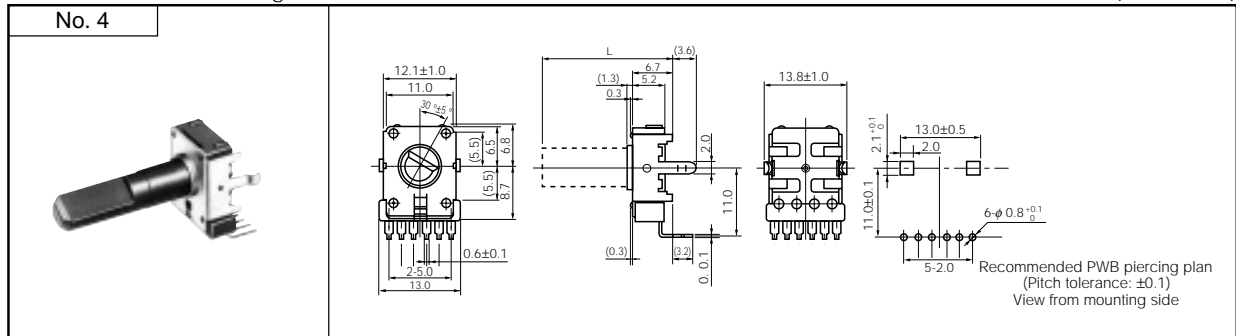
for Volume : EVJC25, EVJCB5
 for Tone : EVJC55, EVJCH5 (without detent)
 EVJC56, EVJCH6 (with detent)

● Horizontal, with Sleeve



for Volume : EVJY00
 for Tone : EVJY80 (without detent)
 EVJY81 (with detent)

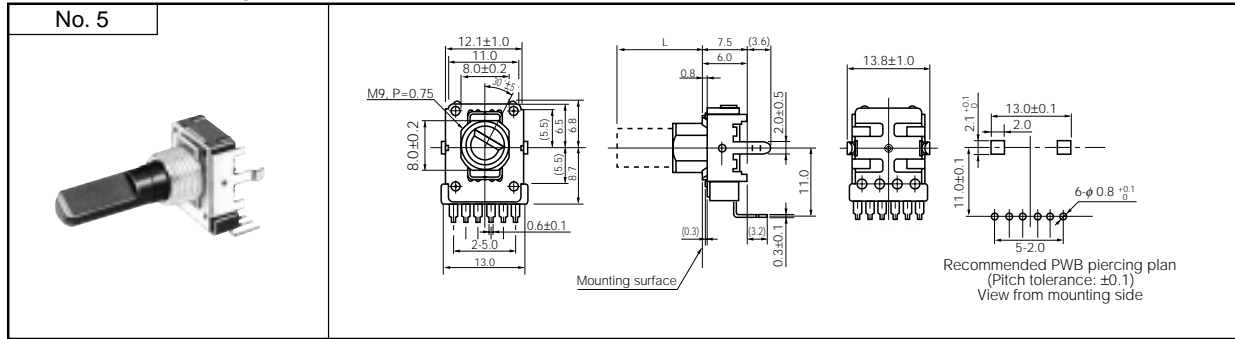
● Vertical, without Bushing



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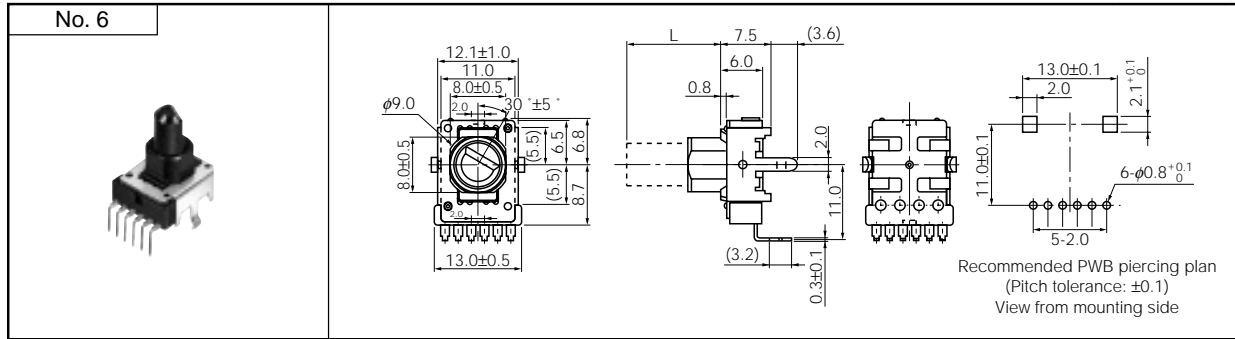
for Volume : EVJY10
 for Tone : EVJY90 (without detent)
 EVJY91 (with detent)

● Vertical, with Bushing



for Volume : EVJY15
 for Tone : EVJY95 (without detent)
 EVJY96 (with detent)

● Vertical, with Sleeve



■ Circuit Diagram and PWB Piercing Plan

| | Volume control without tap | With tap | Tone control |
|--|----------------------------|----------|--------------|
| Relation of mounting holes and terminals | | ----- | |

Notes:

1. I=Resistor 1, II=Resistor 2
2. Relation of mounting holes and terminals. Refer to each piercing plan for dimensions.
3. View from mounted part side.

■ Shaft Trims and Dimensions in mm

| Dimensions | Trim Position |
|------------|---------------|
| | |

Note: The drawing at full CCW position

| Style | | | Dimensions in mm | | | |
|-----------------------------|------------|--|------------------|----------------|------------|-----------------|
| | | | Shaft | | | Bushing, Sleeve |
| | | | L | l ₁ | Corner cut | |
| without Bushing | Horizontal | | 15.0 | 4.5 | C0.5 | — |
| | | | 20.0 | 7.0 | C1.0 | — |
| | | | 25.0 | 12.0 | C1.0 | — |
| | | | 30.0 | 12.0 | C1.0 | — |
| | Vertical | | 15.0 | 4.5 | C0.5 | — |
| | | | 20.0 | 7.0 | C1.0 | — |
| | | | 25.0 | 12.0 | C1.0 | — |
| | | | 30.0 | 12.0 | C1.0 | — |
| with Bushing or with Sleeve | Horizontal | | 12.5 | 7.0 | C1.0 | 5.0 |
| | | | 15.0 | 7.0 | C1.0 | 5.0 |
| | | | 17.5 | 12.0 | C1.0 | 5.0 |
| | | | 20.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 22.5 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 25.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | Vertical | | 12.5 | 7.0 | C1.0 | 5.0 |
| | | | 15.0 | 7.0 | C1.0 | 5.0 |
| | | | 17.5 | 12.0 | C1.0 | 5.0 |
| | | | 20.0 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 22.5 | 12.0 | C1.0 | 5.0, 7.0 |
| | | | 25.0 | 12.0 | C1.0 | 5.0, 7.0 |

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Mar. 2005