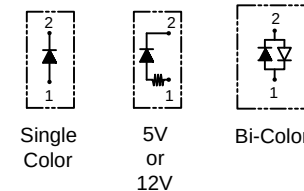
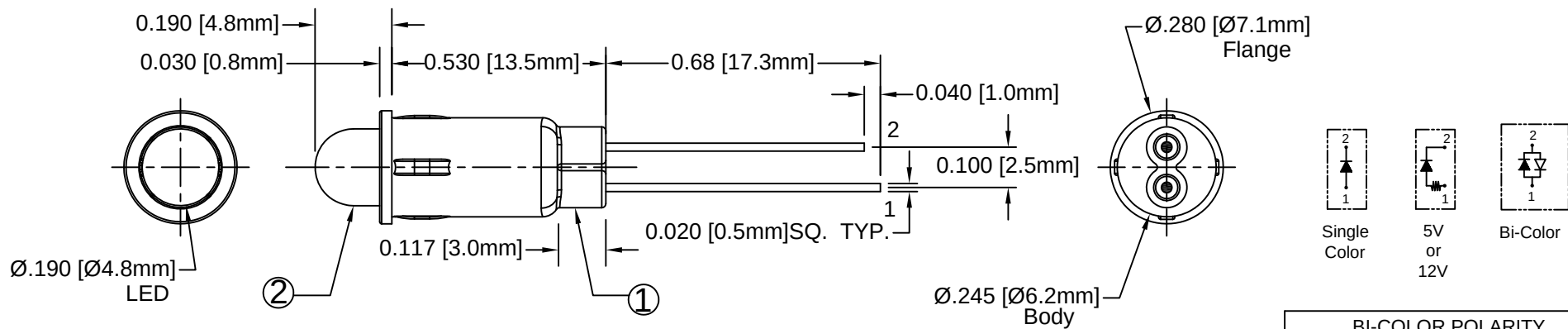
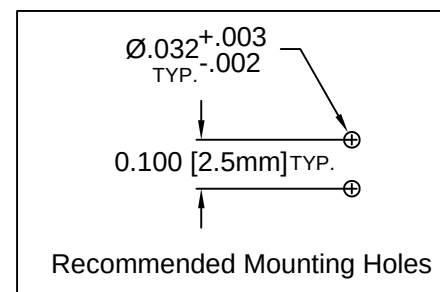
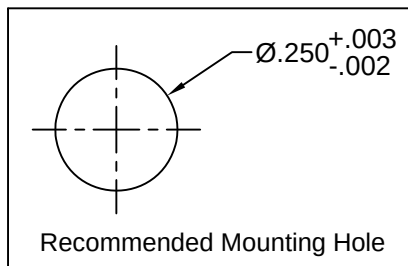
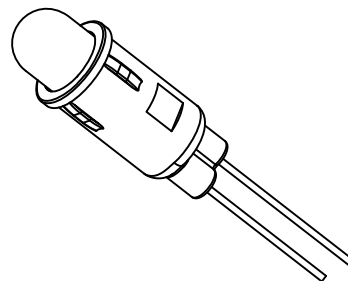


| ITEM | Q'TY | PART NUMBER | PART DESCRIPTION                                                                                     |
|------|------|-------------|------------------------------------------------------------------------------------------------------|
| 1    | 1    | PM5-XXX     | LED holder, Panel Mount, Press Fit (5mm)<br>PM5 (Standard LED), PM5-5V (5V LED), & PM5-12V (12V LED) |
| 2    | 1    | 5XX         | T1 ¾ (5mm) Non-Flange LED, See Following Pages                                                       |

| REV. | DESCRIPTION                          | DATE     | APPROVED |
|------|--------------------------------------|----------|----------|
| A    | Engineering Release.                 | 12/20/05 | M. C.    |
| B    | Added Bi-Color Specs.                | 02/09/10 | T. Y.    |
| C    | Updated LED Offering.                | 05/01/12 | T. Y.    |
| D    | Updated BOM item 1.                  | 11/13/12 | T. Y.    |
| E    | Updated LED Optical Characteristics. | 09/15/15 | J. C.    |



| BI-COLOR POLARITY |             |             |
|-------------------|-------------|-------------|
| LED P/N           | (1) Cathode | (2) Cathode |
| 5BC               | Green       | Red         |
| 5BC-Y/G           | Green       | Yellow      |
| 5BC-R/Y           | Yellow      | Red         |
| 5BC-A/G           | Green       | Amber       |



## ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

|                                              |                     |
|----------------------------------------------|---------------------|
| REVERSE VOLTAGE                              | 5V                  |
| REVERSE CURRENT (VR=5V)                      | 100µA               |
| OPERATING TEMPERATURE RANGE                  | -25°C ~ 85°C        |
| STORAGE TEMPERATURE                          | -30°C ~ 100°C       |
| LEAD SOLDERING TEMPERATURE (1/16" FROM BODY) | 260°C for 5 Seconds |

|                                                      |                          |                                                                                                                                                                 |                       |
|------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED ) |                          | <br>4 THOMAS, IRVINE, CA. 92618<br>TEL: (949) 951-8808 FAX: (949) 951-3974 |                       |
| <u>DECIMALS</u>                                      | <u>ANGULAR</u>           |                                                                                                                                                                 |                       |
| .X ± .1                                              | X° ± 1°                  |  <b>TITLE:</b><br>STD PANEL MOUNT INDICATORS                               |                       |
| .XX ± .02                                            |                          |                                                                                                                                                                 |                       |
| .XXX ± .010                                          |                          | <b>PART NO:</b> PM5XX                                                                                                                                           |                       |
| DESIGNED:<br><b>Sonny Dam</b>                        | DATE:<br><b>12/20/05</b> | <b>REVISION:</b><br><b>E</b>                                                                                                                                    |                       |
| CHECKED:<br><b>T. Yin</b>                            | DATE:<br><b>12/20/05</b> | <b>CAGE CODE # 32559</b>                                                                                                                                        | <b>SHEET # 1 OF 4</b> |
| CAD GENERATED DOCUMENT. DO NOT MEASURE DRAWING.      |                          |                                                                                                                                                                 |                       |

| REV. | DESCRIPTION   | DATE | APPROVED |
|------|---------------|------|----------|
|      | SEE SHEET #1. |      |          |

| LED Assy.No. | Chip      |                  |               | Lens Appearance | Electro-Optical Data @20mA |        |     |          | Viewing Angle<br>2 θ 1/2<br>(Deg) | LED P/N |
|--------------|-----------|------------------|---------------|-----------------|----------------------------|--------|-----|----------|-----------------------------------|---------|
|              | Material  | Peak Wave Length | Emitted Color |                 | If (mA)                    | Vf (V) |     | Iv (mcd) |                                   |         |
|              |           |                  |               |                 |                            | MAX    | TYP | MAX      | TYP                               |         |
| PM5BWC       | GaN/SiC   | 430              | BLUE          | WATER CLEAR     | 25                         | 4.0    | 4.5 | 25       | 20                                | 5BWC    |
| PM5BWD       | GaN/SiC   | 430              | BLUE          | DIFFUSED        | 25                         | 4.0    | 4.5 | 15       | 45                                | 5BWD    |
| PM5BWT       | GaN/SiC   | 430              | BLUE          | TINTED          | 25                         | 4.0    | 4.5 | 30       | 20                                | 5BWT    |
| PM5GC        | GaP/GaP   | 568              | GREEN         | WATER CLEAR     | 30                         | 2.1    | 2.8 | 40       | 35                                | 5GC     |
| PM5GD        | GaP/GaP   | 568              | GREEN         | DIFFUSED        | 30                         | 2.1    | 2.8 | 25       | 45                                | 5GD     |
| PM5GT        | GaP/GaP   | 568              | GREEN         | TINTED          | 30                         | 2.1    | 2.8 | 40       | 35                                | 5GT     |
| PM5PGC       | GaP/GaP   | 555              | PURE GREEN    | WATER CLEAR     | 30                         | 2.2    | 2.8 | 10       | 35                                | 5PGC    |
| PM5PGD       | GaP/GaP   | 555              | PURE GREEN    | DIFFUSED        | 30                         | 2.2    | 2.8 | 10       | 45                                | 5PGD    |
| PM5PGT       | GaP/GaP   | 555              | PURE GREEN    | TINTED          | 30                         | 2.2    | 2.8 | 10       | 35                                | 5PGT    |
| PM5YC        | GaAsp/GaP | 590              | YELLOW        | WATER CLEAR     | 30                         | 2.0    | 2.8 | 40       | 35                                | 5YC     |
| PM5YD        | GaAsp/GaP | 590              | YELLOW        | DIFFUSED        | 30                         | 2.0    | 2.8 | 25       | 45                                | 5YD     |
| PM5YT        | GaAsp/GaP | 590              | YELLOW        | TINTED          | 30                         | 2.0    | 2.8 | 40       | 35                                | 5YT     |
| PM5AC        | GaAsp/GaP | 605              | AMBER         | WATER CLEAR     | 30                         | 2.0    | 2.8 | 40       | 35                                | 5AC     |
| PM5AD        | GaAsp/GaP | 605              | AMBER         | DIFFUSED        | 30                         | 2.0    | 2.8 | 25       | 45                                | 5AD     |
| PM5AT        | GaAsp/GaP | 605              | AMBER         | TINTED          | 30                         | 2.0    | 2.8 | 40       | 35                                | 5AT     |
| PM5HC        | GaAsp/GaP | 625              | HE RED        | WATER CLEAR     | 30                         | 2.0    | 2.8 | 40       | 35                                | 5HC     |
| PM5HD        | GaAsp/GaP | 625              | HE RED        | DIFFUSED        | 30                         | 2.0    | 2.8 | 25       | 45                                | 5HD     |
| PM5HT        | GaAsp/GaP | 625              | HE RED        | TINTED          | 30                         | 2.0    | 2.8 | 40       | 35                                | 5HT     |
| PM5RC        | GaP/GaP   | 700              | RED           | WATER CLEAR     | 20                         | 2.1    | 2.8 | 2        | 35                                | 5RC     |
| PM5RD        | GaP/GaP   | 700              | RED           | DIFFUSED        | 20                         | 2.1    | 2.8 | 2        | 45                                | 5RD     |
| PM5RT        | GaP/GaP   | 700              | RED           | TINTED          | 20                         | 2.1    | 2.8 | 2        | 35                                | 5RT     |
| PM5BC-A/G    | GaAsp/GaP | 605              | AMBER         | WHITE DIFFUSED  | 30                         | 2.0    | 2.8 | 6        | 45                                | 5BC-A/G |
|              | GaP/GaP   | 568              | GREEN         |                 | 30                         | 2.1    | 2.8 | 6        |                                   |         |
| PM5BC        | GaAsp/GaP | 625              | RED           | WHITE DIFFUSED  | 30                         | 2.0    | 2.8 | 6        | 45                                | 5BC     |
|              | GaP/GaP   | 568              | GREEN         |                 | 30                         | 2.1    | 2.8 | 8        |                                   |         |
| PM5BC-R/Y    | GaAsp/GaP | 625              | RED           | WHITE DIFFUSED  | 30                         | 2.0    | 2.8 | 6        | 45                                | 5BC-R/Y |
|              | GaP/GaP   | 590              | YELLOW        |                 | 30                         | 2.0    | 2.8 | 5        |                                   |         |
| PM5BC-Y/G    | GaAsp/GaP | 590              | YELLOW        | WHITE DIFFUSED  | 30                         | 2.0    | 2.8 | 5        | 45                                | 5BC-Y/G |
|              | GaP/GaP   | 568              | GREEN         |                 | 30                         | 2.1    | 2.8 | 8        |                                   |         |

|                                                                         |                          |                                                                                                                                                                  |                       |
|-------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED )<br>±10% ALL VALUES |                          | <br>4 THOMAS, IRVINE, CA. 92618<br>TEL.: (949) 951-8808 FAX: (949) 951-3974 |                       |
|                                                                         |                          | ANGULAR<br>X° ± 1°                                                                                                                                               |                       |
| DESIGNED:<br><b>Sonny Dam</b>                                           | DATE:<br><b>12/20/05</b> | <br><b>TITLE:</b><br>STD PANEL MOUNT INDICATORS                             |                       |
|                                                                         |                          |                                                                                                                                                                  |                       |
| CHECKED:<br><b>T. Yin</b>                                               | DATE:<br><b>12/20/05</b> | <b>PART NO:</b><br>PM5XX                                                                                                                                         | REVISION:<br><b>E</b> |
|                                                                         |                          | <b>CAGE CODE :</b> 32559                                                                                                                                         | <b>SHEET # 2 OF 4</b> |
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|      |               |      |          |
|------|---------------|------|----------|
| REV. | DESCRIPTION   | DATE | APPROVED |
|      | SEE SHEET #1. |      |          |

| LED Assy.No. | Chip        |                  |               | Lens Appearance | Electro-Optical Data @20mA |        |     |          | Viewing Angle<br>2 θ 1/2 (Deg) | LED P/N   |
|--------------|-------------|------------------|---------------|-----------------|----------------------------|--------|-----|----------|--------------------------------|-----------|
|              | Material    | Peak Wave Length | Emitted Color |                 | If (mA)                    | Vf (V) |     | Iv (mcd) |                                |           |
|              |             |                  |               |                 | MAX                        | TYP    | MAX | TYP      |                                |           |
| PM5UBWC      | InGaN/SiC   | 468              | BLUE          | WATER CLEAR     | 50                         | 3.2    | 3.6 | 5000     | 15                             | 5BWC2.515 |
| PM5SGC       | GaP/GaP     | 568              | GREEN         | WATER CLEAR     | 30                         | 2.1    | 2.8 | 60       | 35                             | 5SGC      |
| PM5SGD       | GaP/GaP     | 568              | GREEN         | DIFFUSED        | 30                         | 2.1    | 2.8 | 50       | 40                             | 5SGD      |
| PM5SGT       | GaP/GaP     | 568              | GREEN         | TINTED          | 30                         | 2.1    | 2.8 | 60       | 35                             | 5SGT      |
| PM5SYC       | GaAsP/GaP   | 590              | YELLOW        | WATER CLEAR     | 30                         | 2.0    | 2.8 | 600      | 35                             | 5SYC      |
| PM5SYD       | GaAsP/GaP   | 590              | YELLOW        | DIFFUSED        | 30                         | 2.0    | 2.8 | 150      | 40                             | 5SYD      |
| PM5SYT       | GaAsP/GaP   | 590              | YELLOW        | TINTED          | 30                         | 2.0    | 2.8 | 600      | 35                             | 5SYT      |
| PM5SRC       | GaAlAs/GaAs | 645              | SUPER RED     | WATER CLEAR     | 30                         | 1.7    | 2.4 | 60       | 35                             | 5SRC      |
| PM5SRD       | GaAlAs/GaAs | 645              | SUPER RED     | DIFFUSED        | 30                         | 1.7    | 2.4 | 40       | 40                             | 5SRD      |
| PM5SRT       | GaAlAs/GaAs | 645              | SUPER RED     | TINTED          | 30                         | 1.7    | 2.4 | 60       | 35                             | 5SRT      |
| PM5UGC       | AlGaInP     | 570              | GREEN         | WATER CLEAR     | 30                         | 2.1    | 2.4 | 600      | 35                             | 5UGC      |
| PMTSUGC      | AlGaInP     | 570              | GREEN         | WATER CLEAR     | 30                         | 2.1    | 2.4 | 300      | 35                             | 5SUGC     |
| PM5UYC       | AlGaInP     | 590              | YELLOW        | WATER CLEAR     | 30                         | 2.0    | 2.4 | 1000     | 30                             | 5UYC      |
| PM5SUYC      | AlGaInP     | 590              | YELLOW        | WATER CLEAR     | 30                         | 2.0    | 2.4 | 700      | 35                             | 5SUYC     |
| PM5UOC       | AlGaInP     | 590              | YELLOW        | WATER CLEAR     | 30                         | 2.0    | 2.4 | 500      | 35                             | 5UUYC     |
| PM5UOC       | AlGaInP     | 625              | ORANGE        | WATER CLEAR     | 30                         | 1.8    | 2.4 | 1400     | 35                             | 5UOC      |
| PM5SUOC      | AlGaInP     | 625              | ORANGE        | WATER CLEAR     | 30                         | 1.8    | 2.4 | 1300     | 35                             | 5SUOC     |
| PM5URC       | GaAlAs/GaAs | 645              | RED           | WATER CLEAR     | 30                         | 1.7    | 2.4 | 400      | 30                             | 5URC      |
| PM5SURC      | AlGaInP     | 640              | RED           | WATER CLEAR     | 30                         | 1.8    | 2.4 | 500      | 35                             | 5SURC     |
| PM5UWC       | InGaN/SiC   | 6500K            | WHITE         | WATER CLEAR     | 100                        | 3.5    | 4.2 | 2700     | 30                             | 5WC2.730  |

|                                                                         |                          |                                                                                                                                                                  |                       |
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|                                                                         |                          | ANGULAR<br>X° ± 1°                                                                                                                                               |                       |
| DESIGNED:<br><b>Sonny Dam</b>                                           | DATE:<br><b>12/20/05</b> | <br><b>TITLE:</b><br>STD PANEL MOUNT INDICATORS                             |                       |
|                                                                         |                          |                                                                                                                                                                  |                       |
| CHECKED:<br><b>T. Yin</b>                                               | DATE:<br><b>12/20/05</b> | <b>PART NO:</b><br>PM5XX                                                                                                                                         | REVISION:<br><b>E</b> |
|                                                                         |                          | <b>CAGE CODE : 32559</b>                                                                                                                                         | <b>SHEET # 3 OF 4</b> |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING.                         |                          |                                                                                                                                                                  |                       |

| LED Assy. No. | Peak Wave Length<br>$\lambda_p$ (nm) | Emitted Color | Lens Appearance | Max. Rating | Electro-Optical Data @ 2mA |     |             | Viewing Angle<br>2 $\theta$ ½<br>(Deg) | LED P/N |
|---------------|--------------------------------------|---------------|-----------------|-------------|----------------------------|-----|-------------|----------------------------------------|---------|
|               |                                      |               |                 | If<br>(mA)  | Vf<br>(V)                  |     | Iv<br>(mcd) |                                        |         |
|               |                                      |               |                 | MAX         | TYP                        | MAX | TYP         |                                        |         |
| PM5BWDL       | 430                                  | BLUE          | DIFFUSED        | 7           | 3.8                        | 4.2 | 4           | 45                                     | 5BWDL   |
| PM5PGDL       | 555                                  | PURE GREEN    | DIFFUSED        | 7           | 2.1                        | 2.6 | 1           | 45                                     | 5PGDL   |
| PM5GDL        | 568                                  | GREEN         | DIFFUSED        | 7           | 2.1                        | 2.6 | 5           | 45                                     | 5GDL    |
| PM5YDL        | 590                                  | YELLOW        | DIFFUSED        | 7           | 2.0                        | 2.6 | 4           | 45                                     | 5YDL    |
| PM5ADL        | 605                                  | AMBER         | DIFFUSED        | 7           | 2.0                        | 2.6 | 4           | 45                                     | 5ADL    |
| PM5HDL        | 625                                  | HE RED        | DIFFUSED        | 7           | 2.0                        | 2.6 | 5           | 45                                     | 5HDL    |
| PM5SRDL       | 645                                  | SUPER RED     | DIFFUSED        | 7           | 1.7                        | 2.3 | 6           | 45                                     | 5SRDL   |

| LED Assy. No. | Peak Wave Length<br>λp(nm) | Emitted Color | Lens Appearance | Electro-Optical Data |           |     |             | Viewing Angle<br>2 θ½<br>(Deg) | LED P/N |
|---------------|----------------------------|---------------|-----------------|----------------------|-----------|-----|-------------|--------------------------------|---------|
|               |                            |               |                 | If<br>(mA)           | Vf<br>(V) |     | Iv<br>(mcd) |                                |         |
|               |                            |               |                 |                      | MAX       | TYP | MAX         |                                |         |
| 5 Volt        |                            |               |                 | Data @ 5V            |           |     |             |                                |         |
| PM5BWD5V      | BLUE                       | 430           | DIFFUSED        | -                    | -         | 5   | 15          | 40                             | 5BWD5V  |
| PM5GC5V       | GREEN                      | 568           | WATER CLEAR     | -                    | -         | 5   | 40          | 40                             | 5GC5V   |
| PM5GD5V       | GREEN                      | 568           | DIFFUSED        | -                    | -         | 5   | 25          | 40                             | 5GD5V   |
| PM5GT5V       | GREEN                      | 568           | TINTED          | -                    | -         | 5   | 40          | 40                             | 5GT5V   |
| PM5AD5V       | AMBER                      | 605           | DIFFUSED        | -                    | -         | 5   | 25          | 40                             | 5AD5V   |
| PM5HD5V       | HE RED                     | 625           | DIFFUSED        | -                    | -         | 5   | 30          | 40                             | 5HD5V   |
| PM5RD5V       | RED                        | 700           | DIFFUSED        | -                    | -         | 5   | 1.5         | 40                             | 5RD5V   |
| PM5YD5V       | YELLOW                     | 590           | DIFFUSED        | -                    | -         | 5   | 25          | 40                             | 5YD5V   |
| 12 Volt       |                            |               |                 | Data @ 12V           |           |     |             |                                |         |
| PM5GC12V      | GREEN                      | 568           | WATER CLEAR     | -                    | -         | 12  | 40          | 35                             | 5GC12V  |
| PM5GD12V      | GREEN                      | 568           | DIFFUSED        | -                    | -         | 12  | 25          | 40                             | 5GD12V  |
| PM5HC12V      | HE RED                     | 625           | WATER CLEAR     | -                    | -         | 12  | 50          | 35                             | 5HC12V  |
| PM5HD12V      | HE RED                     | 625           | DIFFUSED        | -                    | -         | 12  | 30          | 40                             | 5HD12V  |
| PM5RC12V      | RED                        | 700           | WATER CLEAR     | -                    | -         | 12  | 2           | 35                             | 5RC12V  |
| PM5RD12V      | RED                        | 700           | DIFFUSED        | -                    | -         | 12  | 1.5         | 40                             | 5RD12V  |
| PM5YC12V      | YELLOW                     | 590           | WATER CLEAR     | -                    | -         | 12  | 25          | 35                             | 5YC12V  |
| PM5YD12V      | YELLOW                     | 590           | DIFFUSED        | -                    | -         | 12  | 20          | 40                             | 5YD12V  |

|                                                                                                  |                          |                                                                                                                                                                  |                       |
|--------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
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| X° ± 1°<br> |                          | <b>TITLE:</b><br>STD PANEL MOUNT INDICATORS                                                                                                                      |                       |
| DESIGNED:<br><b>Sonny Dam</b>                                                                    | DATE:<br><b>12/20/05</b> | <b>PART NO:</b><br>PM5XX                                                                                                                                         | REVISION:<br><b>E</b> |
| CHECKED:<br><b>T. Yin</b>                                                                        | DATE:<br><b>12/20/05</b> | <b>CAGE CODE :</b> 32559                                                                                                                                         | <b>SHEET #</b> 4 OF 4 |
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