

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0877159308](#)  
**Status:** **Active**  
**Overview:**  
**Description:** 1.00mm (.039") Pitch, PCI Express\* Connector, 164 Circuits, Nylon 4/6 Glass-filled, Black Housing, Phosphor Bronze, 0.38µm (15µ") Gold (Au) Plating, with Plastic Pegs, 2.30mm (.091") Solder tail, Lead Free

**Agency Certification**

CSA LR19980  
 UL E29179

**General**

Product Family Edge Card Connectors  
 Series 87715  
 Comments PCI 16 lanes  
 Component Type Edgecard to PCB  
 Overview pci\_express\_card\_edge\_connector  
 Product Name PCI Express\*

**Physical**

Circuits (Loaded) 164  
 Circuits (maximum) 164  
 Circuits Detail All Signal  
 Color - Resin Black  
 Durability (mating cycles max) 50  
 Entry Angle Vertical (Top Entry)  
 Flammability 94V-0  
 Keying to Mating Part Yes  
 Material - Metal Phosphor Bronze  
 Material - Plating Mating Gold  
 Material - Plating Termination Tin  
 Material - Resin High Temperature Thermoplastic  
 PC Tail Length (in) 0.091 In  
 PC Tail Length (mm) 2.30 mm  
 PCB Locator Yes  
 PCB Retention Yes  
 PCB Thickness Recommended (in) 0.062 In  
 PCB Thickness Recommended (mm) 1.60 mm  
 Packaging Type Tray  
 Pitch - Mating Interface (in) 0.039 In  
 Pitch - Mating Interface (mm) 1.00 mm  
 Pitch - Term. Interface (in) 0.039 In  
 Pitch - Term. Interface (mm) 1.00 mm  
 Plating min: Mating (µin) 15  
 Plating min: Mating (µm) 0.375  
 Plating min: Termination (µin) 100  
 Plating min: Termination (µm) 2.5  
 Polarized to Mating Part Yes  
 Temperature Range - Operating -55°C to +85°C  
 Termination Interface: Style Through Hole

**Electrical**

Current - Maximum per Contact 1.1A  
 Voltage - Maximum 50V AC (RMS)/DC

**Solder Process Data**

Lead-free Process Capability Wave Capable (TH only)

**EU RoHS**

**ELV and RoHS  
 Compliant  
 REACH SVHC  
 Contains SVHC: No  
 Halogen-Free  
 Status**

**China RoHS**



**Not Reviewed**

**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**Search Parts in this Series**

87715Series

**Mates With**

PCI Express Card

Process Temperature max. C 245

### **Material Info**

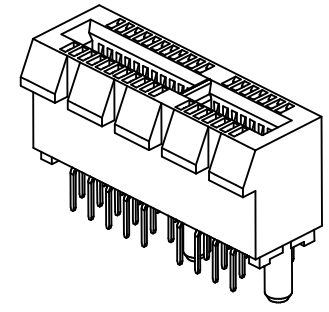
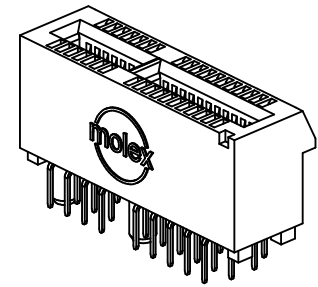
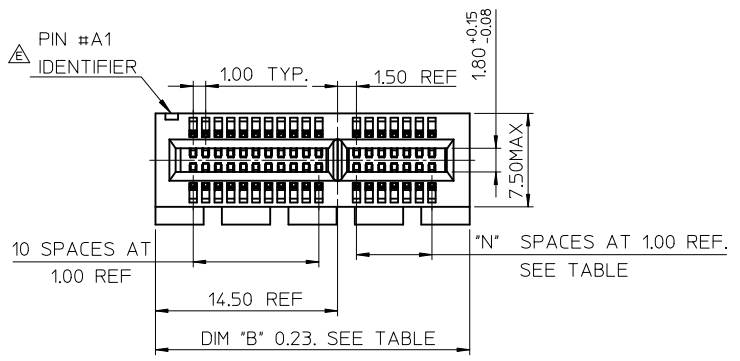
### **Reference - Drawing Numbers**

|                         |              |
|-------------------------|--------------|
| Packaging Specification | PK-87715-207 |
| Product Specification   | PS-87715-200 |
| Sales Drawing           | SD-87715-207 |
| Test Summary            | TS-87715-207 |

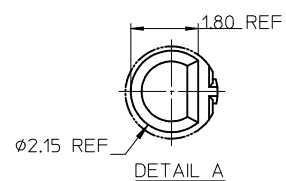
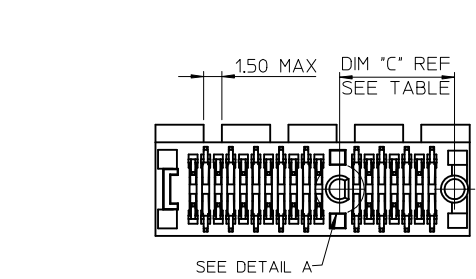
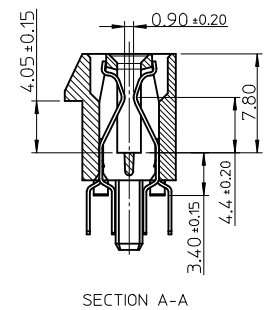
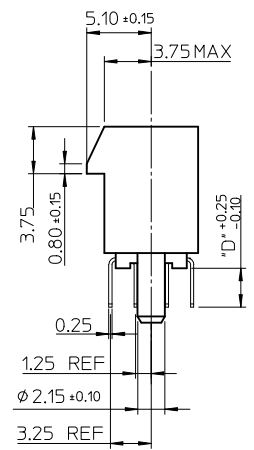
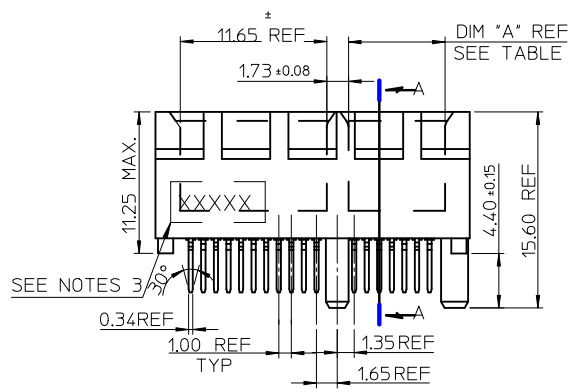
\* PCI Express is a registered trademark of PCI-SIG®

This document was generated on 06/04/2010

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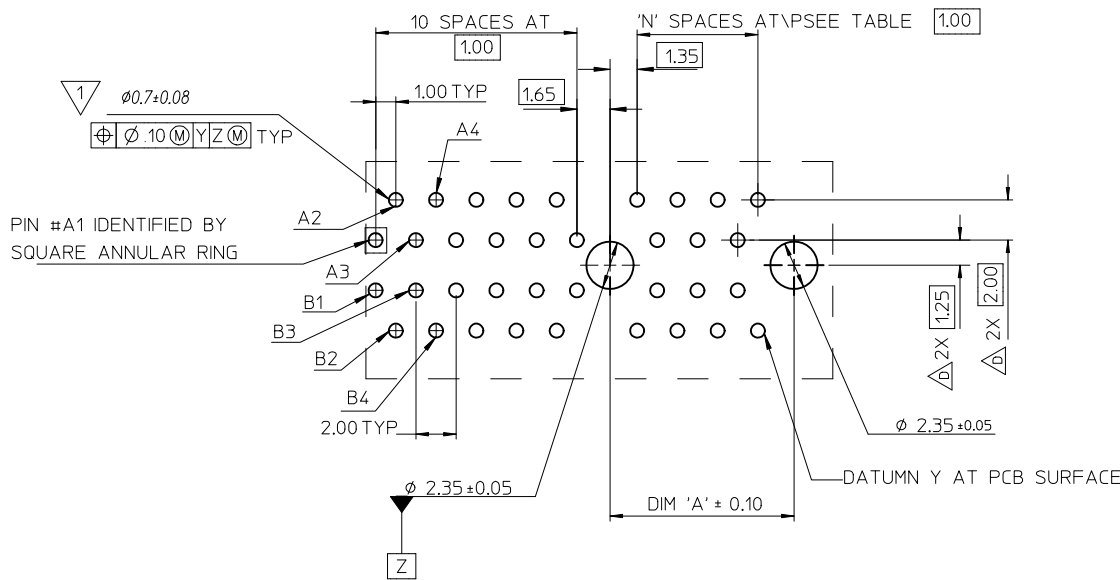
- NOTES:
- 1.MATERIALS:  
1-1.HOUSING: SEE TABLE ,GLASS FIBER FILLED UL94V-0, COLOR: SEE TABLE.  
1-2.CONTACT: SEE TABLE
  - 2.PLATING:  
2-1.CONTACT AREA: GOLD, THICKNESS : SEE TABLE .  
2-2.SOLDER TAIL: 100 MICRINCH MIN. TIN PLATING.  
2-3.UNDER PLATING: NICKEL PLATING OVERALL.
  - 3.WEEK CODE: XX(YEAR) XXI(WEEK) X(LOCATION),
  - 4.PRODUCT SPECIFICATION REFER TO PS-87715-200.
  - 5.PACKAGING SPECIFICATION REFER TO PK-87715-207.
  - 6.TEST SUMMARY:REFER TO TS-87715-207.
  - 7.LEAD FREE AND ROHS COMPLIANCE PRODUCT.



| CONNECTOR LINK WIDTH | # POS REF | N  | DIM 'A' | DIM 'B' | DIM 'C' |
|----------------------|-----------|----|---------|---------|---------|
| X4                   | 64        | 20 | 21.65   | 39.00   | 23.15   |
| X8                   | 98        | 37 | 38.65   | 56.00   | 40.15   |

| PCB THK (REF) | DIM 'D' |
|---------------|---------|
| 1.60          | 2.30    |
| 1.58          | 2.54    |
| 2.36          | 3.00    |

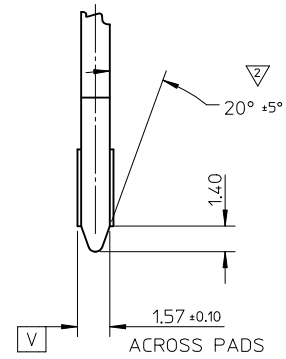
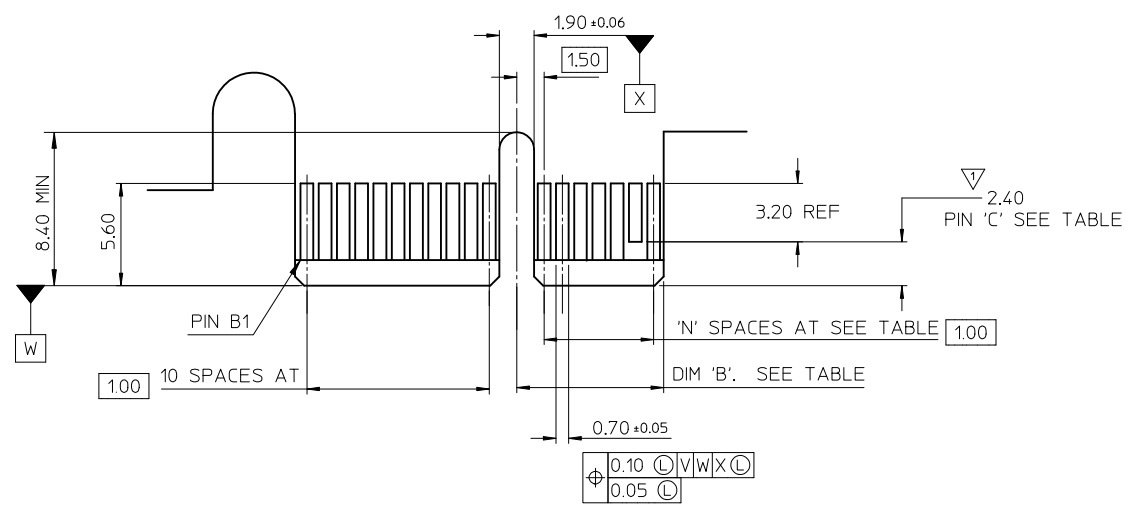
|   |  |  |                            |                    |                        |                        |  |
|---|--|--|----------------------------|--------------------|------------------------|------------------------|--|
| REVISED<br>IEC NO: SH2010-0425<br>DR:WNRZHHANG 2010/05/14<br>CH:KD:ALLEN L LIN 2004/07/20<br>APPR:X.J.SONG 2010/06/03 | QUALITY SYMBOLS<br>F=0<br>E=0<br>E=0                 | GENERAL TOLERANCES (UNLESS SPECIFIED)<br>mm INCH<br>4 PLACES ± --- ± ---<br>3 PLACES ± --- ± ---<br>2 PLACES ± 0.25 ± ---<br>1 PLACE ± 0.25 ± ---<br>ANGULAR ± 3 ° | DIMENSION STYLE<br>MM ONLY | SCALE<br>METRIC    | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION |  |
|   | DRAWN BY<br>TOM                                      | DATE<br>2004/07/20   | CHECKED BY<br>ALLEN LIN    | DATE<br>2004/07/20 | APPROVED BY<br>WILSON  | DATE<br>2004/07/20     | TITLE<br>PCI EXPRESS<br>EDGE CARD CONNECTOR<br>(LEAD FREE VERSION) |
|   | MATERIAL NO.<br>SEE SHEET 4                          | DOCUMENT NO.<br>SD-87715-207   | SHEET NO.<br>1 OF 4        | MOLEX INCORPORATED |                        |                        |  |
|   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |  |                            |                    |                        |                        |  |



1 THE HORIZONTAL AXIS FOR THE HOLE PATTERN IS ESTABLISHED BY A LINE THROUGH THE CENTER OF THE TWO  $\phi 2.35$  HOLES. THE VERTICAL AXIS IS 90° TO THE HORIZONTAL AXIS, THROUGH THE CENTER OF DATUM Z

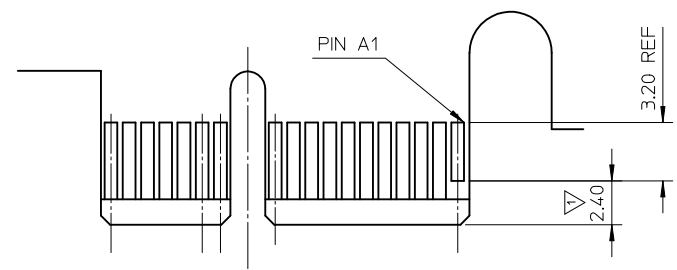
| CONNECTOR LINK WIDTH | # POS REF | N  | DIM 'A' |
|----------------------|-----------|----|---------|
| X4                   | 64        | 20 | 23.15   |
| X8                   | 98        | 37 | 40.15   |

|  |  |  |             |   |                    |              |   |                        |  |  |
|--|--|--|-------------|---|--------------------|--------------|---|------------------------|--|--|
| SEE SHEET 1<br>EC NO: SH2010-0425<br>DRW: RZHANG 2010/05/14<br>CHKD: ALLEN LIN 2004/07/20<br>APPR: XJSONG 2010/06/03 | QUALITY SYMBOLS<br>$F_A=0$<br>$F_G=0$<br>$F_P=0$ | GENERAL TOLERANCES (UNLESS SPECIFIED)                |             | DIMENSION STYLE<br>MM ONLY  |                    | SCALE        | DESIGN UNITS<br>METRIC                                    | THIRD ANGLE PROJECTION |  |  |
|  |  |  | mm          | INCH  | DRAWN BY           | DATE         | TITLE   |                        |  |  |
|  |  | 4 PLACES   | ± ---       | ± ---   | TOM                | 2004/07/20   | PCI EXPRESS<br>EDGE CARD CONNECTOR<br>(LEAD FREE VERSION) |                        |  |  |
|  |  | 3 PLACES   | ± ---       | ± ---   | CHECKED BY         | DATE         |   |                        |  |  |
| 2 PLACES   | ± 0.25   | ± ---  | ALLEN LIN   | 2004/07/20  | MOLEX INCORPORATED |              |   |                        |  |  |
| 1 PLACE  | ± 0.25   | ± ---  | APPROVED BY | DATE  |                    |              |   |                        |  |  |
| ANGULAR ± 3°   |  | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |             | WILSON  | 2004/07/20         | DOCUMENT NO. |   | SHEET NO.              |  |  |
|  |  |  |             | SEE SHEET 4   |                    | SD-87715-207 |   | 2 OF 4                 |  |  |
|  |  |  |             | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                    |              |   |                        |  |  |



← I/O PANEL DIRECTION

PRIMARY (COMPONENT) SIDE



I/O PANEL DIRECTION →

SECONDARY (SOLDER) SIDE

- 1 NO TIE BAR PERMITTED FROM CARD EDGE TO LEADING EDGE OF PAD FOR PINS A1 AND "C".
- 2 CHAMFER EDGES MUST BE FREE OF CUTTING BURRS.
- 3. TOLERANCE: .XX±.13

| CONNECTOR LINK WIDTH | # POS REF | N  | DIM 'B' | 'C'             |
|----------------------|-----------|----|---------|-----------------|
| X4                   | 64        | 20 | 22.15   | B17, B31        |
| X8                   | 98        | 37 | 39.15   | B17, B31<br>B48 |

SEE SHEET 1  
 EC NO: SH2010-0425 2010/05/14  
 DR: WNRZhang 2010/07/20  
 CHK: ALLEN LIN 2004/07/20  
 APPR: XJ.SONG 2010/06/03

| REV | DESCRIPTION     |
|-----|-----------------|
| 1   | QUALITY SYMBOLS |
| 2   | QUALITY SYMBOLS |
| 3   | QUALITY SYMBOLS |

|               | GENERAL TOLERANCES (UNLESS SPECIFIED) |       |
|---------------|---------------------------------------|-------|
|               | mm                                    | INCH  |
| 4 PLACES      | ± ---                                 | ± --- |
| 3 PLACES      | ± ---                                 | ± --- |
| 2 PLACES      | ± 0.25                                | ± --- |
| 1 PLACE       | ± 0.25                                | ± --- |
| ANGULAR ± 3 ° |                                       |       |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

| DIMENSION STYLE |            | SCALE                     | DESIGN UNITS |
|-----------------|------------|---------------------------|--------------|
| MM ONLY         |            |                           | METRIC       |
| DRAWN BY        | DATE       | TITLE                     |              |
| TOM             | 2004/07/20 | PCI EXPRESS               |              |
| CHECKED BY      | DATE       | EDGE CARD CONNECTOR       |              |
| ALLEN LIN       | 2004/07/20 | (LEAD FREE VERSION)       |              |
| APPROVED BY     | DATE       | MOLEX INCORPORATED        |              |
| WILSON          | 2004/07/20 | MATERIAL NO. DOCUMENT NO. |              |
| SEE SHEET 4     |            | SD-87715-207              |              |

| THIRD ANGLE PROJECTION |           |
|------------------------|-----------|
| SIZE                   | SHEET NO. |
| A3                     | 3 OF 4    |

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| MOLEX P/N  | CIRCUIT SIZE | HOUSING MATERIAL | HOUSING COLOR | TERMINAL MATERIAL | CONTACT PLATING | SOLDER TAIL 'D' LENGTH |
|------------|--------------|------------------|---------------|-------------------|-----------------|------------------------|
| 87715-9100 | 64           | NYLON46          | BLACK         | PHOSPHOR BRONZE   | GOLD FLASH      | 2.54                   |
| 87715-9101 |              |                  |               |                   | 10 MICROINCH    |                        |
| 87715-9102 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9103 |              |                  |               |                   | GOLD FLASH      | 3.00                   |
| 87715-9104 |              |                  |               |                   | 10 MICROINCH    |                        |
| 87715-9105 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9106 |              |                  |               |                   | 30 MICROINCH    | 2.54                   |
| 87715-9107 |              |                  |               |                   | GOLD FLASH      | 2.30                   |
| 87715-9108 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9109 | 30 MICROINCH |                  |               |                   |                 |                        |

| MOLEX P/N  | CIRCUIT SIZE | HOUSING MATERIAL | HOUSING COLOR | TERMINAL MATERIAL | CONTACT PLATING | SOLDER TAIL 'D' LENGTH |
|------------|--------------|------------------|---------------|-------------------|-----------------|------------------------|
| 87715-9200 | 98           | NYLON46          | BLACK         | PHOSPHOR BRONZE   | GOLD FLASH      | 2.54                   |
| 87715-9201 |              |                  |               |                   | 10 MICROINCH    |                        |
| 87715-9202 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9203 |              |                  |               |                   | GOLD FLASH      | 3.00                   |
| 87715-9204 |              |                  |               |                   | 10 MICROINCH    |                        |
| 87715-9205 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9206 |              |                  |               |                   | 30 MICROINCH    | 2.54                   |
| 87715-9207 |              |                  |               |                   | GOLD FLASH      | 2.30                   |
| 87715-9208 |              |                  |               |                   | 15 MICROINCH    |                        |
| 87715-9209 | 30 MICROINCH |                  |               |                   |                 |                        |

| MOLEX P/N  | CIRCUIT SIZE | HOUSING MATERIAL | HOUSING COLOR | TERMINAL MATERIAL | CONTACT PLATING | SOLDER TAIL 'D' LENGTH |
|------------|--------------|------------------|---------------|-------------------|-----------------|------------------------|
| 87715-9602 | 98           | NYLON46          | BLACK         | BRASS             | 15 MICROINCH    | 2.54                   |

|   |                               |   |                 |              |   |                        |
|---|-------------------------------|---|-----------------|--------------|---|------------------------|
| SEE SHEET 1<br>EC NO: SH2010-0425<br>DRWNR:ZHANG 2010/05/14<br>CHKD:ALLEN LIN 2004/07/20<br>APPR:XJ.SONG 2010/06/03 | QUALITY SYMBOLS               | GENERAL TOLERANCES (UNLESS SPECIFIED)   | DIMENSION STYLE | SCALE        | DESIGN UNITS  | THIRD ANGLE PROJECTION |
|   | $F_A=0$<br>$F_C=0$<br>$F_P=0$ | mm INCH<br>4 PLACES ± --- ± ---<br>3 PLACES ± --- ± ---<br>2 PLACES ± 0.25 ± ---<br>1 PLACE ± 0.25 ± ---<br>ANGULAR ± 3 ° | MM ONLY         |              | METRIC  |                        |
|   | DESCRIPTION                   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  | DRAWN BY        | DATE         | TITLE   |                        |
|   | REV                           |   | TOM             | 2004/07/20   | PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)   |                        |
|   |                               |   | CHECKED BY      | DATE         | MOLEX INCORPORATED  |                        |
|   |                               |   | ALLEN LIN       | 2004/07/20   | SD-87715-207  |                        |
|   |                               |   | APPROVED BY     | DATE         | SHEET NO.   |                        |
|   |                               |   | WILSON          | 2004/07/20   | 4 OF 4  |                        |
|   |                               |   | MATERIAL NO.    | DOCUMENT NO. | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                        |
|   |                               |   | SEE TABLE       |              |   |                        |