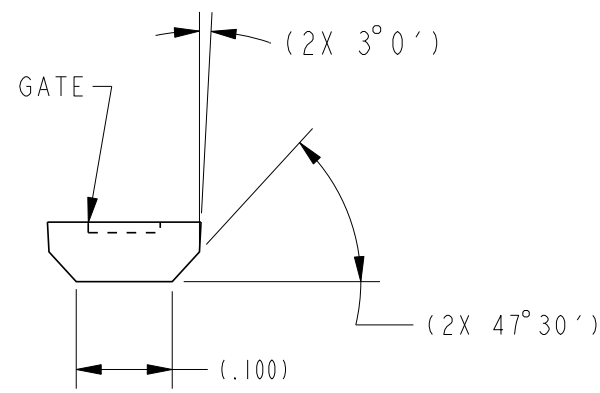
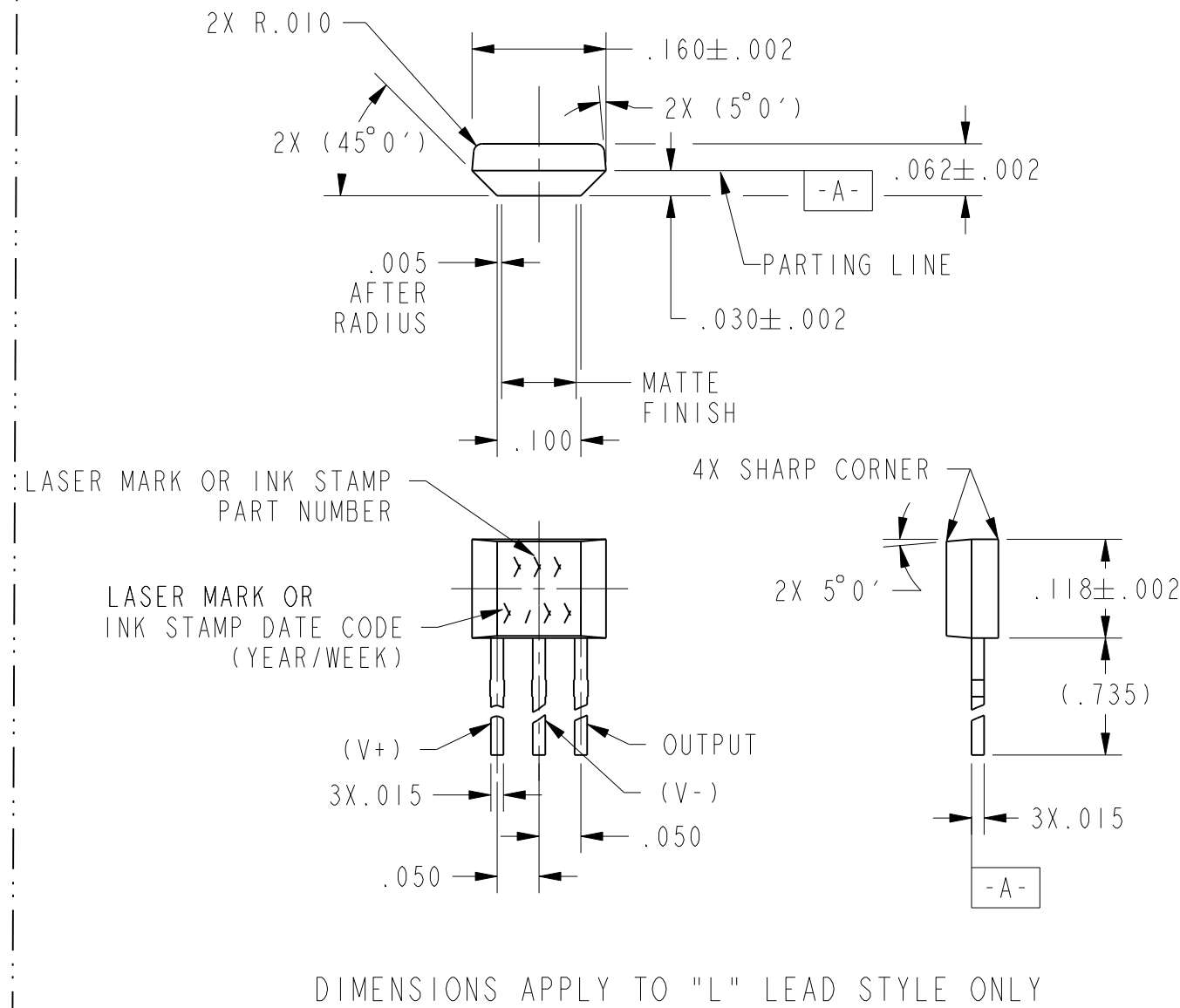


LEAD STYLES



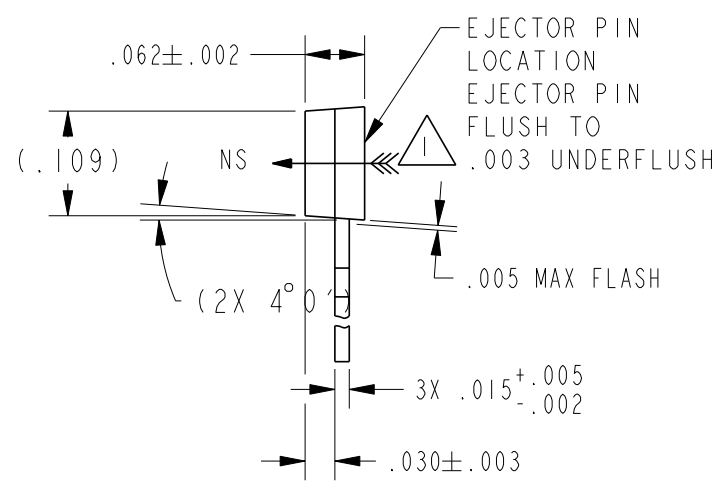
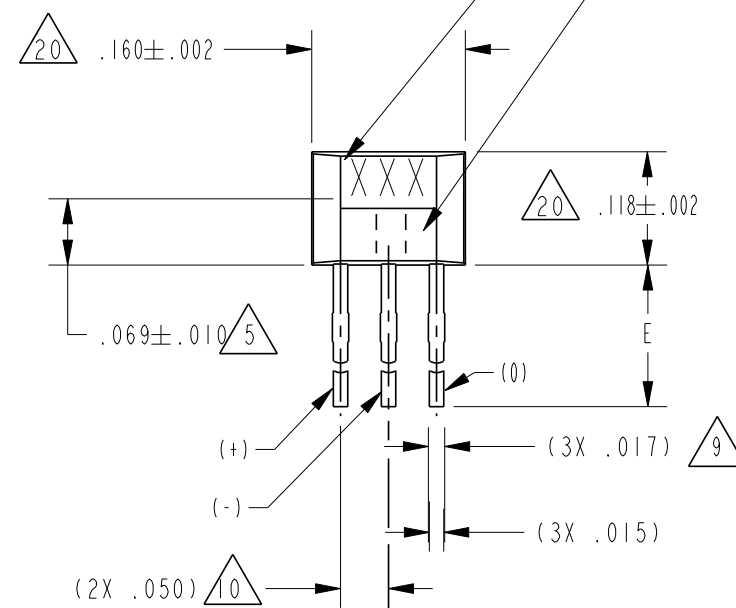
ALL EXCEPT "L" LEAD STYLES



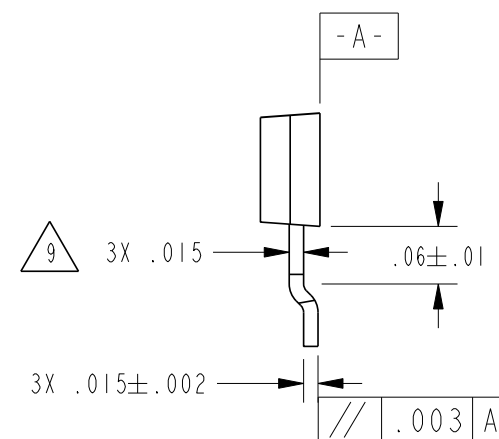
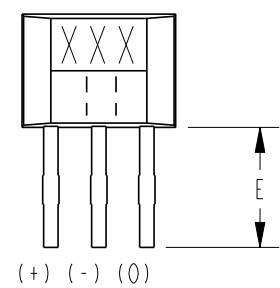
DIMENSIONS APPLY TO "L" LEAD STYLE ONLY

LASER MARK OR INK STAMP BRAND SYMBOL  
.039 HIGH CHARACTERS

LASER MARK OR INK STAMP DATE CODE  
( YEAR, WEEK ) .039 HIGH CHARACTERS ( 3 DIGITS )



LEAD STYLES "STD", "R", "RP"



LEAD STYLES "S" & "SP"

NOTES

- 1 THE MAGNETIC FLUX USED TO OPERATE THE SWITCH MUST BE IN THE DIRECTION AND LOCATION SHOWN (THIS ASSUMES THE CONVENTION THAT THE DIRECTION OF THE EXTERNAL FLUX OF A MAGNET IS FROM THE NORTH TO THE SOUTH POLE OF THE MAGNET)
- 2 THE MAGNETIC FIELD STRENGTH (GAUSS) REQUIRED TO CAUSE THE SWITCH TO CHANGE STATE (OPERATE AND RELEASE) WILL BE AS TABULATED. TO TEST THE SWITCH AGAINST THE SPECIFIED LIMITS, THE SWITCH MUST BE PLACED IN A UNIFORM MAGNETIC FIELD
- 3 ABSOLUTE MAXIMUM RATINGS ARE THE EXTREME LIMITS THE DEVICE WILL MOMENTARILY WITHSTAND WITHOUT DAMAGE TO THE DEVICE. ELECTRICAL AND MAGNETIC CHARACTERISTICS ARE NOT GUARANTEED IF THE RATED VOLTAGE AND/OR CURRENTS ARE EXCEEDED NOR WILL THE DEVICE NECESSARILY OPERATE AT ABSOLUTE MAXIMUM RATINGS
- 4 TEST CONDITIONS:  $V_{cc}=12V$ ,  $R_2=1.6K$  OHMS,  $C_2=20pf$
- 5 APPROXIMATE HALL ELEMENT LOCATION
- 6 LEADS MUST BE ADEQUATELY SUPPORTED DURING ANY FORMING/SHEERING OPERATION TO ASSURE THAT THE LEADS ARE NOT STRESSED WITHIN THE PLASTIC
- 7 PCB WAVE SOLDERING GUIDELINES ARE AS FOLLOWS:  
250°C PEAK FOR 10 S MAX OR 260°C PEAK FOR 5S MAX  
SOLDERING TIME
- 8  $V_{cc}=12V$ ,  $R_L=1.6K$ ,  $C_L=20pf$
- 9 BURRS ARE ALLOWED ONLY IF FULL LENGTH OF LEADS WILL PASS THROUGH  $\varnothing.023$  HOLE. LEAD REFERENCE DIMENSIONS DO NOT INCLUDE SOLDER THICKNESS
- 10 DIMENSION REFERS TO THE LOCATION OF LEAD CENTERLINES AS THEY EXIT THE PLASTIC PACKAGE
- 11 TYPICAL DIMENSIONS NOT SHOWN IN LEAD STYLE "S" AND "SP"
- 12 SOME COMBINATIONS OF BASIC LISTING AND PACKING OPTIONS ARE NOT AVAILABLE
- 13 TAPE AND AMMOPACK PER EIA-468-A-1990
- 14 POCKET TAPE AND REEL PER EIA-481-A-1986
- 15  $V_{cc}=30V$ ,  $I_{sink}=20mA$ ,  $-40^\circ C < T < 150^\circ C$ , B>MAX OP GAUSS FOR SPECIFIC LISTING
- 16  $V_{cc}=3.8V$ ,  $I_{sink}=20mA$ , B>MAX OP GAUSS FOR SPECIFIC LISTING
- 17  $V_{out}=30V$ ,  $V_{cc}=24V$ , B<MIN RELEASE GAUSS FOR SPECIFIC LISTING
- 18 AMMOPACK STYLE "T2" AND "T3". 24 SWITCHES BETWEEN FOLDS, SKIP 1 SPACE AT FOLD. MAY BE REFERRED TO AS "FAN FOLD"
- 19 LEAD STRAIGHTNESS MAY BE DETERIORATED ON SOME UNITS BY BULK PACKAGING. APPLICATIONS HAVING A CRITICAL LEAD STRAIGHTNESS REQUIREMENT SHOULD USE A TAPE PACKAGING OPTION
- 20 MOLDED PART DIMENSIONS DO NOT INCLUDE FLASH. FLASH IS LIMITED TO .005 MAX
- 21 THESE HALL EFFECT SENSORS MAY HAVE AN INITIAL OUTPUT IN EITHER THE ON OR OFF STATE IF POWERED UP WITH AN APPLIED MAGNETIC FIELD IN THE DIFFERENTIAL ZONE (APPLIED MAGNETIC FIELD >  $B_{rp}$  AND <  $B_{op}$ ). MICRO SWITCH RECOMMENDS THAT THE APPLICATION CIRCUIT DESIGNER ALLOW 10 MICROSECONDS AFTER SUPPLY VOLTAGE HAS REACHED 5 VOLTS FOR THE OUTPUT VOLTAGE TO STABILIZE



|                                                                                           |       |              |       |
|-------------------------------------------------------------------------------------------|-------|--------------|-------|
| THIRD ANGLE PROJECTION                                                                    |       |              |       |
| SCALE 5 : 1                                                                               |       |              |       |
| DO NOT SCALE PRINT                                                                        |       |              |       |
| TOLERANCES                                                                                |       |              |       |
| APPLY TO DESIGN UNITS. CONVERSIONS ARE ONLY FOR REFERENCE. UNLESS NOTED, TOLERANCES ARE : |       |              |       |
| DIM.                                                                                      | TOL.  | DIM.         | TOL.  |
| NO PLACES                                                                                 | X     | mm           | mm/10 |
| ONE PLACE                                                                                 | X.X   |              | X.X   |
| TWO PLACES                                                                                | X.XX  |              | X.XX  |
| THREE PLACES                                                                              | X.XXX |              | X.XXX |
| SI METRIC                                                                                 |       | US CUSTOMARY |       |
| DESIGN UNITS                                                                              |       | WEIGHT       |       |

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MICRO SWITCH  
a Honeywell Division

SOLID STATE SENSOR

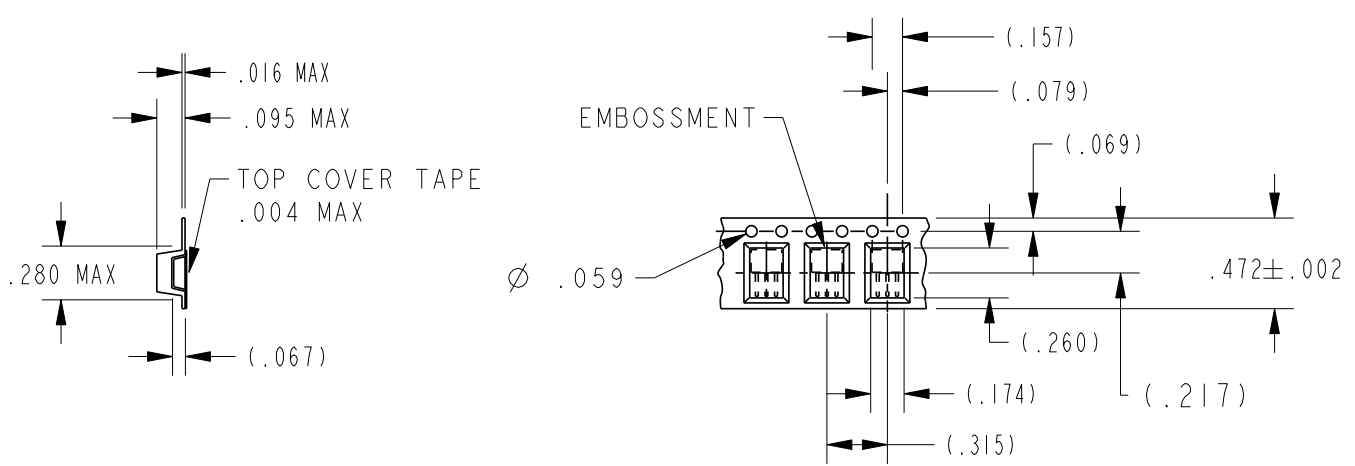
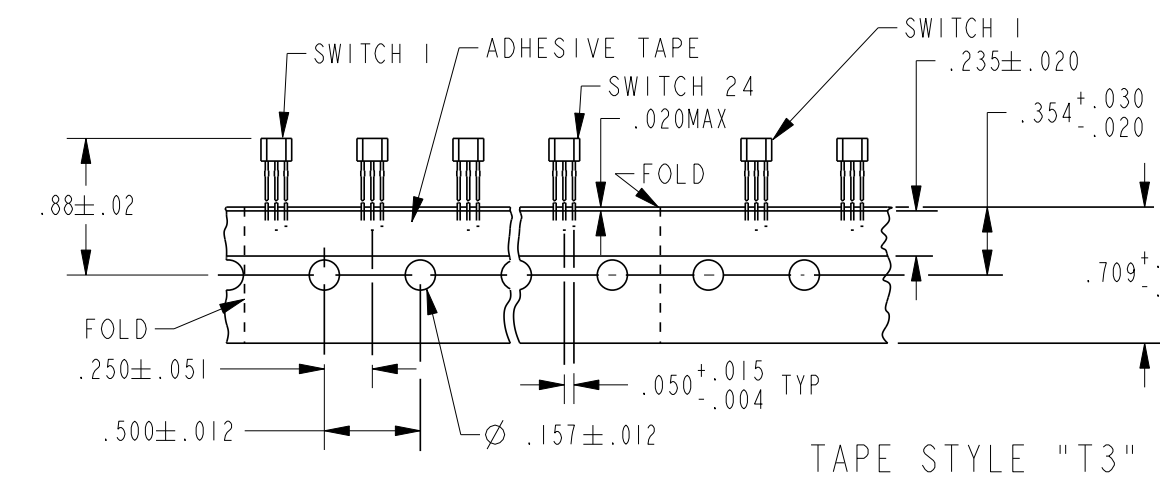
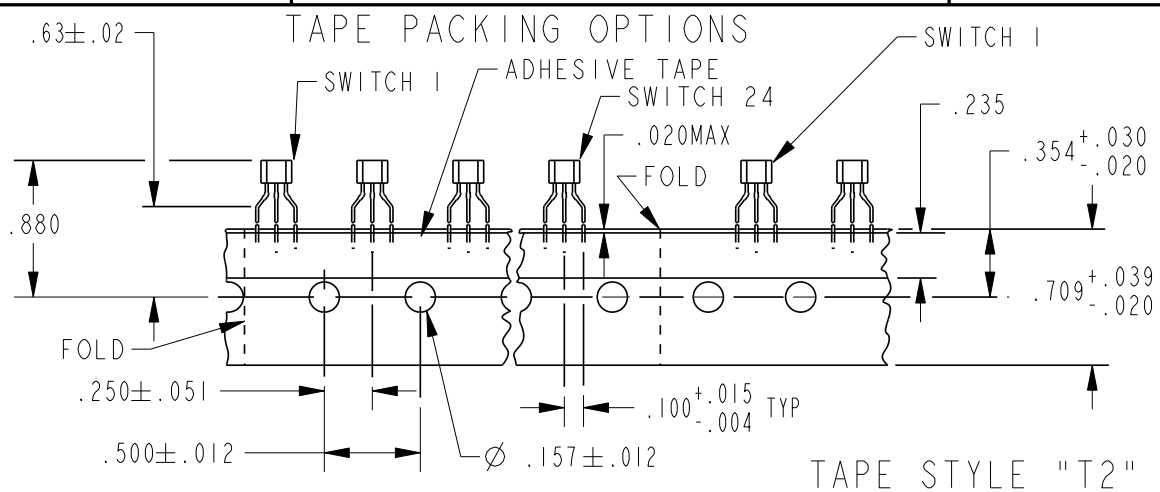
SS400 SERIES CHART 1

ANSI Y14.5M-1982 APPLIES

FED. MFG. CODE 91929

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KED 14 JAN 99



PREFIX SUFFIX

BASIC CATALOG LISTING: PACKAGE STYLE, MAGNETIC TYPE, ELECTRICAL/MAGNETIC SPECS

LEAD & PACKAGING OPTIONS: BULK, TAPE & REEL, POCKET TAPE & REEL

CHARACTERS IN THESE POSITIONS OF THE LISTING ARE BRANDED ON THE PRODUCT

SS 4 4 1 A 1 - - -

SS4=PACKAGE STYLE

MAGNETIC TYPE

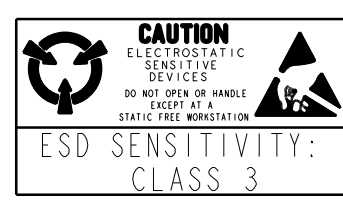
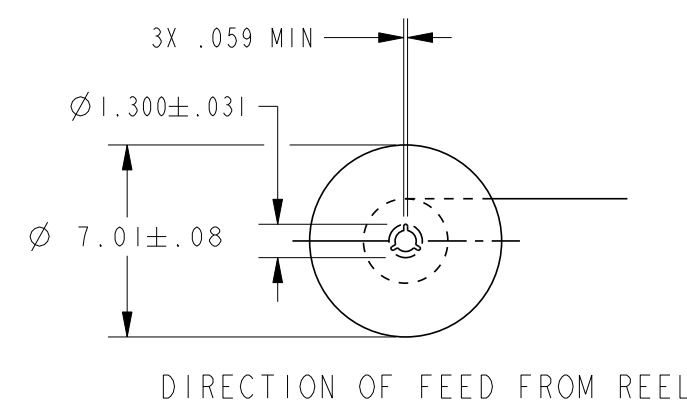
1=BIPOLAR  
4=UNIPOLAR  
6=LATCH  
9=LINEAR

RELATIVE GAUSS OPERATING RANGE (0-9, 9=HIGH GAUSS)#

ELECTRICAL/MAGNETIC OPTIONS (A-K, & U-Z)

A=STANDARD  
B-K & U-Z=SPECIALS  
SPECIAL FEATURE (BLANK, 1-9)  
BLANK=STANDARD  
1-9=SPECIALS

| DESCRIPTION                       | NOMINAL LEAD SPACING | NOMINAL "E" DIM LENGTH ±.015 | PARTS PER CONTAINER |
|-----------------------------------|----------------------|------------------------------|---------------------|
| STANDARD, BULK PACK $\Delta_{19}$ | .050                 | .590                         | 1000/BAG            |
| -T 2 TAPE, AMMOPACK               | .100                 | .590                         | 5000/BOX            |
| -T 3 TAPE, AMMOPACK               | .050                 | .590                         | 5000/BOX            |
| -S SURFACE MOUNT, BULK PACK       | .050                 | .125                         | 1000/BAG            |
| -S P SURFACE MOUNT, POCKET TAPE   | .050                 | .125                         | 1000/REEL           |
| -R REDUCED LENGTH, BULK PACK      | .050                 | .130                         | 1000/BAG            |
| -R P REDUCED LENGTH, POCKET TAPE  | .050                 | .130                         | 1000/REEL           |
| -L LONG LEADS, BULK PACK          | .050                 | .735                         | 1000/BAG            |



TAPE STYLE "SP" & "RP"  $\Delta_{14}$

THIRD ANGLE PROJECTION

SCALE NONE

DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

|             |        |       |
|-------------|--------|-------|
| ONE PLACE   | (.0)   | ±.030 |
| TWO PLACE   | (.00)  | ±.015 |
| THREE PLACE | (.000) | ±.005 |
| ANGLES      |        | ±     |

WEIGHT

CATALOG LISTING  
**SS400 SERIES CHART 1**  
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TABLE 1 - MAGNETIC AND ELECTRICAL SPECIFICATIONS  $\triangle 2 \triangle 21$

|                   | -40°C | 0°C  | 25°C | 85°C | 125°C | 150°C |
|-------------------|-------|------|------|------|-------|-------|
| MIN OPERATE GAUSS |       |      |      |      |       |       |
| SS411A            | NS    | NS   | NS   | NS   | NS    | NS    |
| SS413A            | NS    | NS   | NS   | NS   | NS    | NS    |
| SS441A            | 50    | 53   | 55   | 45   | 40    | 35    |
| SS443A            | 110   | 110  | 110  | 90   | 80    | 65    |
| SS449A            | 285   | 305  | 310  | 290  | 270   | 260   |
| SS461A            | 5     | 5    | 10   | 10   | 5     | 5     |
| SS466A            | 100   | 100  | 100  | 95   | 80    | 70    |
| MAX OPERATE GAUSS |       |      |      |      |       |       |
| SS411A            | 70    | 65   | 60   | 60   | 65    | 70    |
| SS413A            | 140   | 140  | 140  | 140  | 140   | 140   |
| SS441A            | 135   | 117  | 115  | 120  | 123   | 125   |
| SS443A            | 215   | 190  | 180  | 180  | 190   | 200   |
| SS449A            | 435   | 400  | 390  | 400  | 410   | 420   |
| SS461A            | 110   | 90   | 85   | 85   | 100   | 110   |
| SS466A            | 200   | 185  | 180  | 180  | 180   | 185   |
| MIN RELEASE GAUSS |       |      |      |      |       |       |
| SS411A            | -70   | -65  | -60  | -60  | -65   | -70   |
| SS413A            | -140  | -140 | -140 | -140 | -140  | -140  |
| SS441A            | 20    | 20   | 20   | 15   | 15    | 10    |
| SS443A            | 80    | 80   | 75   | 70   | 60    | 55    |
| SS449A            | 210   | 230  | 235  | 215  | 200   | 185   |
| SS461A            | -110  | -90  | -85  | -85  | -100  | -110  |
| SS466A            | -200  | -185 | -180 | -180 | -100  | -185  |
| MAX RELEASE GAUSS |       |      |      |      |       |       |
| SS411A            | NS    | NS   | NS   | NS   | NS    | NS    |
| SS413A            | NS    | NS   | NS   | NS   | NS    | NS    |
| SS441A            | 120   | 99   | 95   | 105  | 115   | 120   |
| SS443A            | 190   | 165  | 155  | 165  | 180   | 195   |
| SS449A            | 360   | 325  | 315  | 325  | 340   | 345   |
| SS461A            | -5    | -5   | -10  | -10  | -5    | -5    |
| SS466A            | -100  | -100 | -100 | -95  | -80   | -70   |
| MIN DIFF GAUSS    |       |      |      |      |       |       |
| SS411A            | 15    | 15   | 15   | 12   | 12    | 10    |
| SS413A            | 20    | 20   | 20   | 20   | 20    | 20    |
| SS441A            | 15    | 15   | 20   | 15   | 8     | 5     |
| SS443A            | 25    | 25   | 25   | 15   | 10    | 5     |
| SS449A            | 30    | 30   | 30   | 30   | 30    | 30    |
| SS461A            | 50    | 50   | 50   | 50   | 50    | 50    |
| SS466A            | 200   | 200  | 200  | 190  | 160   | 140   |

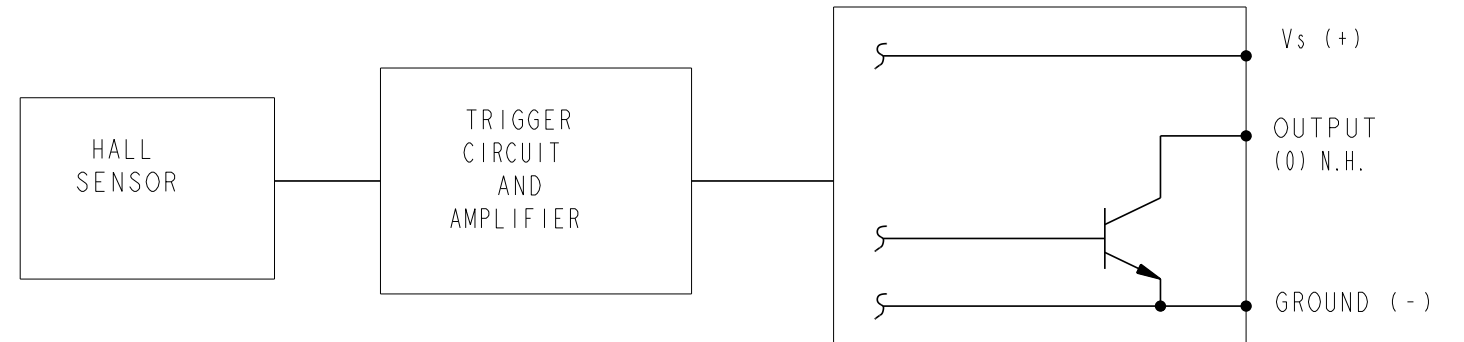


TABLE 2

|                                         |             |
|-----------------------------------------|-------------|
| PACKING                                 | BAG         |
| SPECIFIED VOLTAGE RANGE                 | 3.8 - 30    |
| MAX Ioff milliamp                       | 15          |
| MAX Ion milliamp                        | 15          |
| RATED SINK CURRENT Ma                   | 20          |
| MAX Vsat VOLTS                          | 16          |
| MAX LEAKAGE AT 24V, UA                  | 17          |
| RISE TIME AT 25°C<br>10% TO 90% $\mu$ S | 4           |
| FALL TIME AT 25°C<br>90% TO 10% $\mu$ S | 4           |
| STORAGE TEMP °C                         | -65 TO +160 |
| OPERATING TEMP °C                       | -55 TO +160 |

TABLE 4

| CATALOG LISTING | MAGNETIC TYPE | BRAND SYMBOL |
|-----------------|---------------|--------------|
| SS411A          | BIPOLAR       | 11A          |
| SS413A          | BIPOLAR       | 13A          |
| SS441A          | UNIPOLAR      | 41A          |
| SS443A          | UNIPOLAR      | 43A          |
| SS449A          | UNIPOLAR      | 49A          |
| SS461A          | LATCH         | 61A          |
| SS466A          | LATCH         | 66A          |

ABSOLUTE LIMITS  $\triangle 3$  TABLE 3

|                        |             |
|------------------------|-------------|
| SUPPLY VOLTAGE         | -1 TO +30   |
| APPLIED OUTPUT VOLTAGE | -0.5 TO +30 |
| OUTPUT CURRENT mA      | SEE TABLE 5 |
| MAGNETIC FLUX GAUSS    | NO LIMIT    |

TABLE 5

| OUTPUT CURRENT ABSOLUTE LIMITS |                        |
|--------------------------------|------------------------|
| SUPPLY VOLTAGE                 | OUTPUT CURRENT MAX, MA |
| -1 TO 24                       | 50                     |
| 24 TO 25                       | 37                     |
| 25 TO 26                       | 33                     |
| 26 TO 27                       | 28                     |
| 27 TO 28                       | 24                     |
| 28 TO 29                       | 19                     |
| 29 TO 30                       | 15                     |



| THIRD ANGLE PROJECTION                    |       |
|-------------------------------------------|-------|
|                                           |       |
| SCALE                                     | NONE  |
| DO NOT SCALE PRINT                        |       |
| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE |       |
| ONE PLACE (.0)                            | ±.030 |
| TWO PLACE (.00)                           | ±.015 |
| THREE PLACE (.000)                        | ±.005 |
| ANGLES                                    | ±     |
| WEIGHT                                    |       |

CATALOG LISTING  
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26 OCT 07

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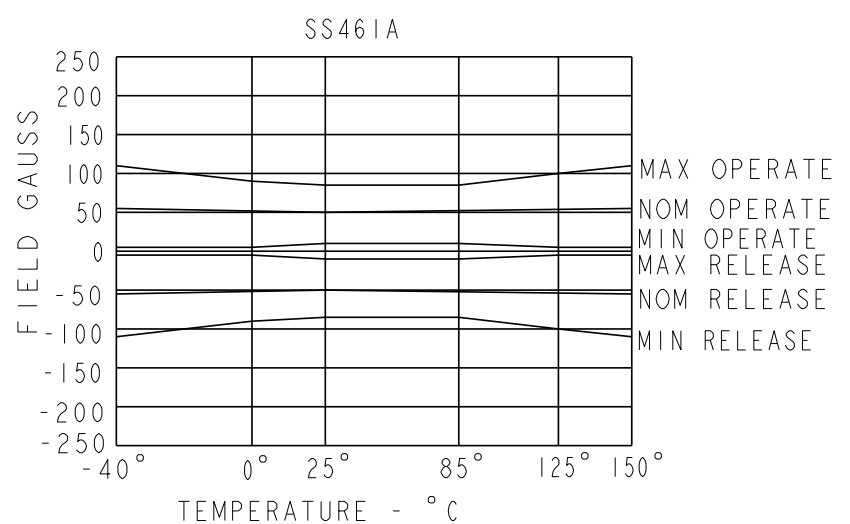
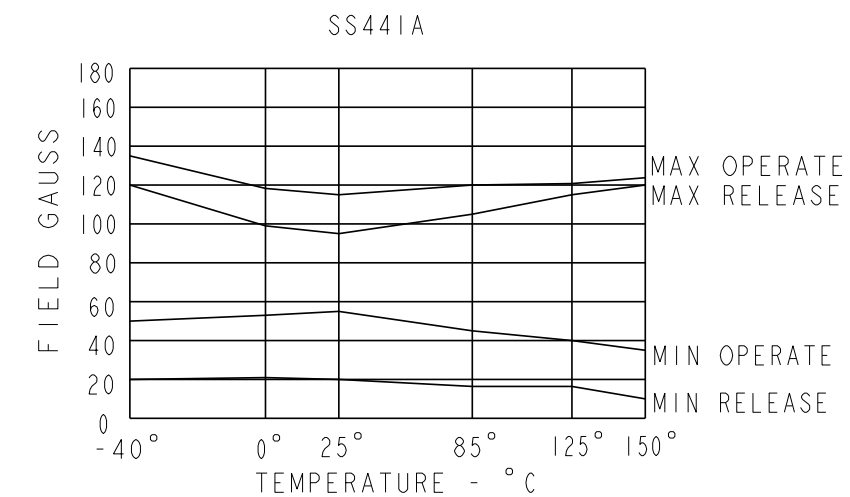
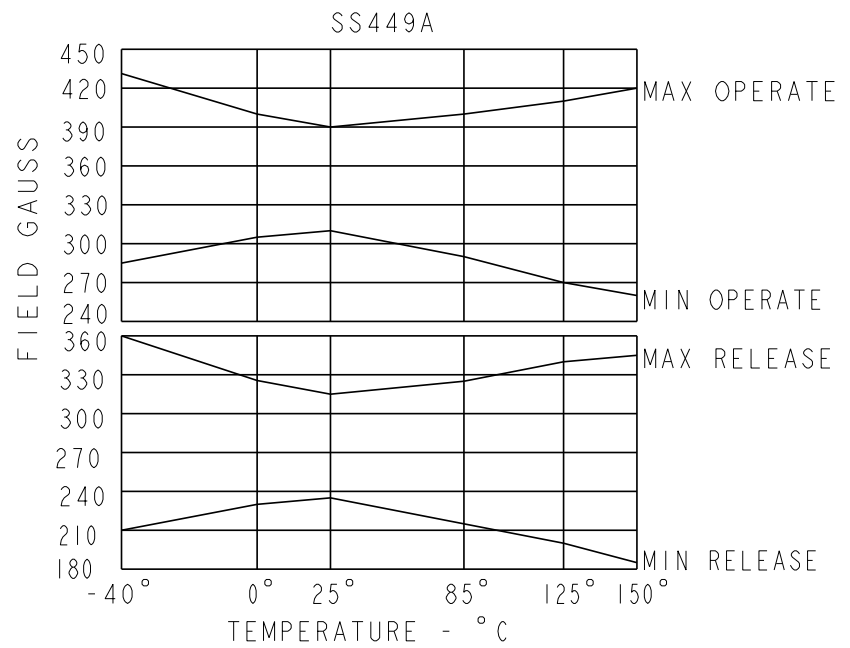
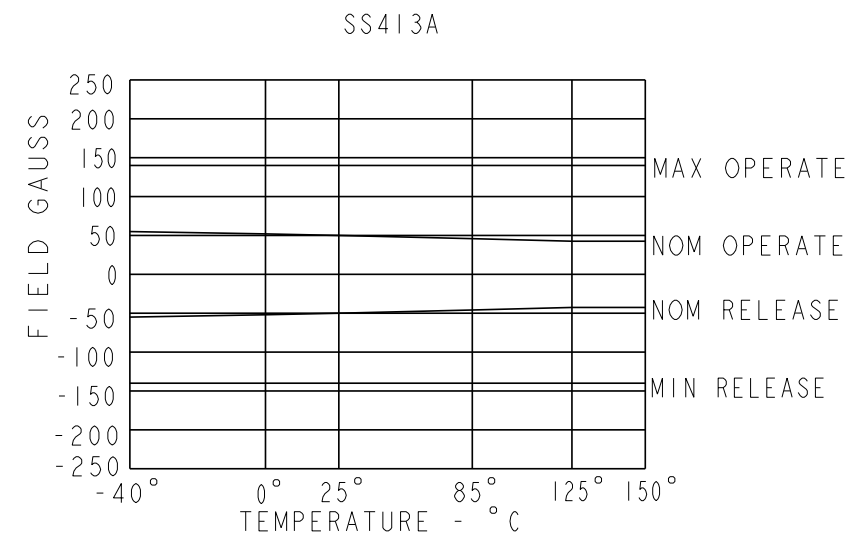
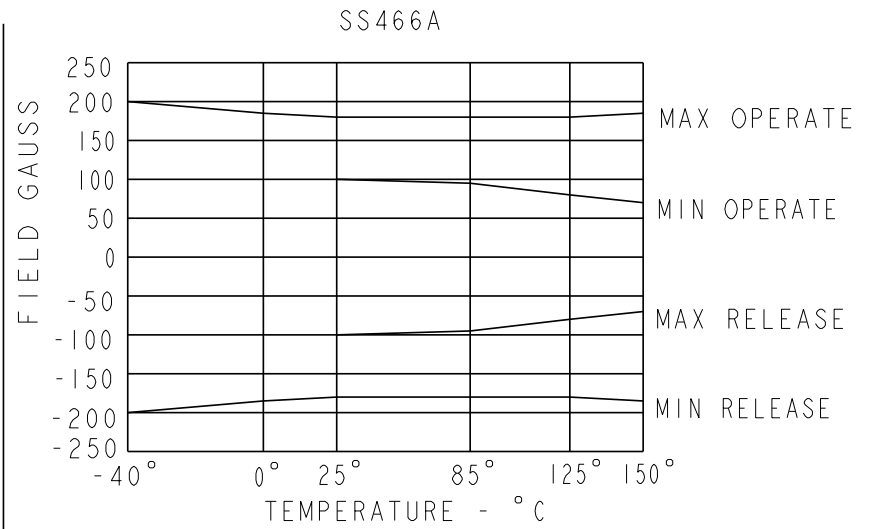
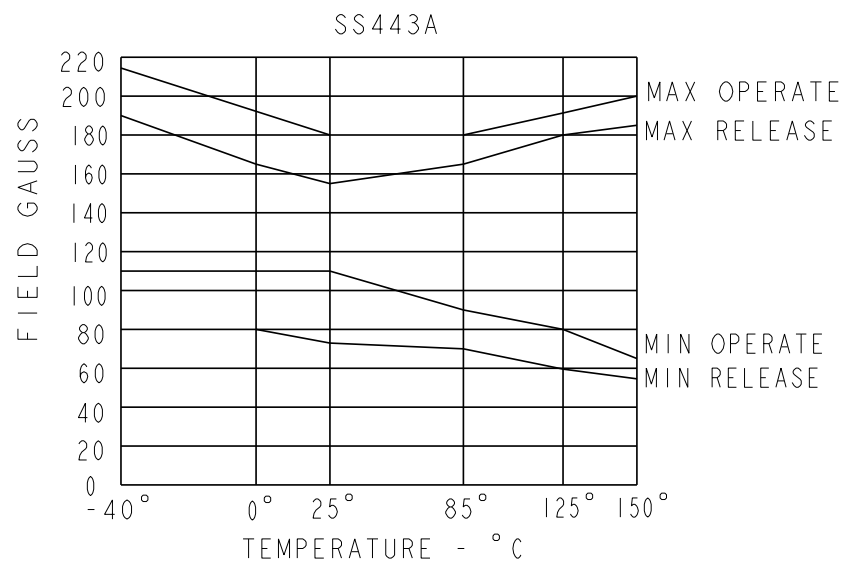
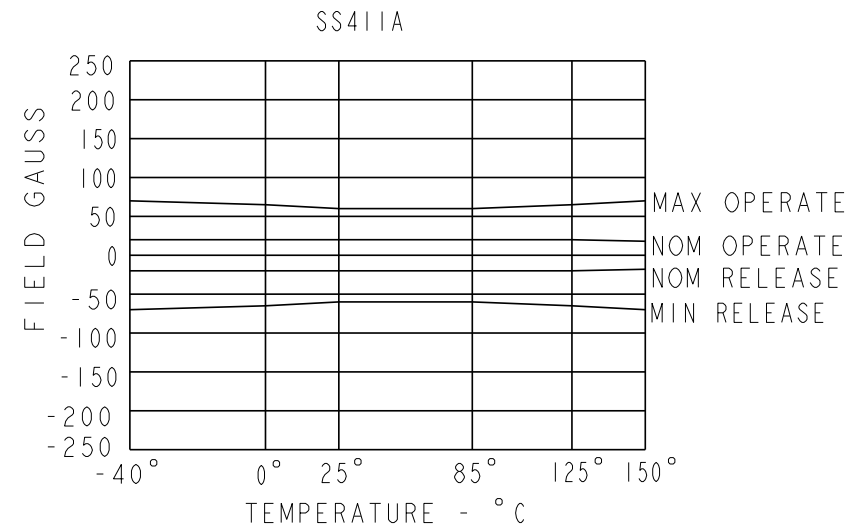
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**CAUTION**  
ELECTROSTATIC SENSITIVE DEVICES  
DO NOT OPEN OR HANDLE EXCEPT AT A STATIC FREE WORKSTATION

ESD SENSITIVITY:  
CLASS 3

|                                           |              |
|-------------------------------------------|--------------|
| THIRD ANGLE PROJECTION                    |              |
| SCALE                                     | NONE         |
| DO NOT SCALE PRINT                        |              |
| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE |              |
| ONE PLACE                                 | (.0) ±.030   |
| TWO PLACE                                 | (.00) ±.015  |
| THREE PLACE                               | (.000) ±.005 |
| ANGLES                                    | ±            |
| WEIGHT                                    |              |

## Данный компонент на территории Российской Федерации

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