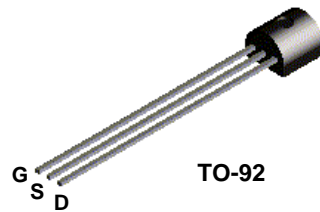


PN5432 PN5433 PN5434



N-Channel Switch

This device is designed for analog or digital switching applications where very low On Resistance is mandatory. Sourced from Process 58. See J108 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------------------|--|-------------|-------|
| V _{DG} | Drain-Gate Voltage | 25 | V |
| V _{GS} | Gate-Source Voltage | -25 | V |
| I _{GF} | Forward Gate Current | 10 | mA |
| T _J , T _{stg} | Operating and Storage Junction Temperature Range | -55 to +150 | °C |

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|------------------|---|----------------------|-------|
| | | PN5432 / 5433 / 5434 | |
| P _D | Total Device Dissipation | 350 | mW |
| | Derate above 25°C | 2.8 | mW/°C |
| R _{θJC} | Thermal Resistance, Junction to Case | 125 | °C/W |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 357 | °C/W |

N-Channel Switch

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|---------------------|-------------------------------|--|----------------------|---------------------|-------------|
| OFF CHARACTERISTICS | | | | | |
| $V_{(BR)GSS}$ | Gate-Source Breakdown Voltage | $I_G = 1.0 \mu A, V_{DS} = 0$ | -25 | | V |
| I_{GSS} | Gate Reverse Current | $V_{GS} = 15 V, V_{DS} = 0$ $V_{GS} = 15 V, V_{DS} = 0, T_A = 150^\circ C$ | | -200 -200 | pA nA |
| $I_{D(off)}$ | Drain Cutoff Leakage Voltage | $V_{GS} = 10 V, V_{DS} = 5.0 V$ $V_{GS} = 10 V, V_{DS} = 5.0 V,$ $T_A = 150^\circ C$ | | -200 -200 | pA nA |
| $V_{GS(off)}$ | Gate-Source Cutoff Voltage | $V_{DS} = 5.0 V, I_D = 3.0 nA$ | -4.0 -3.0 -1.0 | -10 -9.0 -4.0 | V V V |

ON CHARACTERISTICS

| | | | | | | |
|---------------------|----------------------------------|--|----------------------|------------------|------------------|----------------|
| I _{DSS} | Zero-Gate Voltage Drain Current* | V _{DS} = 15 V, V _{GS} = 0 | 5432 5433 5434 | 150 100 30 | | mA mA mA |
| V _{DS(on)} | Drain-Source On Voltage | I _D = 10 mA, V _{GS} = 0 | 5432 5433 5434 | | 50 70 100 | mV mV mV |
| r _{DS(on)} | Drain-Source On Resistance | I _D = 10 mA, V _{GS} = 0 | 5432 5433 5434 | 2.0 | 5.0 7.0 10 | Ω Ω Ω |
| | | I _D = 0, V _{GS} = 0, f = 1.0 kHz | 5432 5433 5434 | 2.0 | 5.0 7.0 10 | Ω Ω Ω |

SMALL SIGNAL CHARACTERISTICS

| | | | | | |
|-----------|------------------------------|--|--|----|----|
| C_{iss} | Input Capacitance | $V_{DS} = 0, V_{GS} = 10 V, f = 1.0 MHz$ | | 30 | pF |
| C_{rss} | Reverse Transfer Capacitance | $V_{DS} = 0, V_{GS} = 10 V, f = 1.0 MHz$ | | 15 | pF |

SWITCHING CHARACTERISTICS

| | | | | | |
|-------|--------------|--|----------------------|-------------------|----------------|
| t_d | Delay Time | $V_{DD} = 1.5 V, V_{GS(on)} = 0,$ | | 4.0 | ns |
| t_r | Rise Time | $I_{D(on)} = 10 mA$ | | 1.0 | ns |
| t_s | Storage Time | $V_{GS(off)} = 12 V,$ $V_{DS(on)} = 50 mV$ $V_{DS(on)} = 70 mV$ $V_{DS(on)} = 100 mV$ | 5432 5433 5434 | 6.0 6.0 6.0 | ns ns ns |
| t_f | Fall Time | $V_{GS(off)} = 12 V$ | | 30 | ns |

* Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

TO-92 Tape and Reel Data



TO-92 Packaging Configuration: Figure 1.0

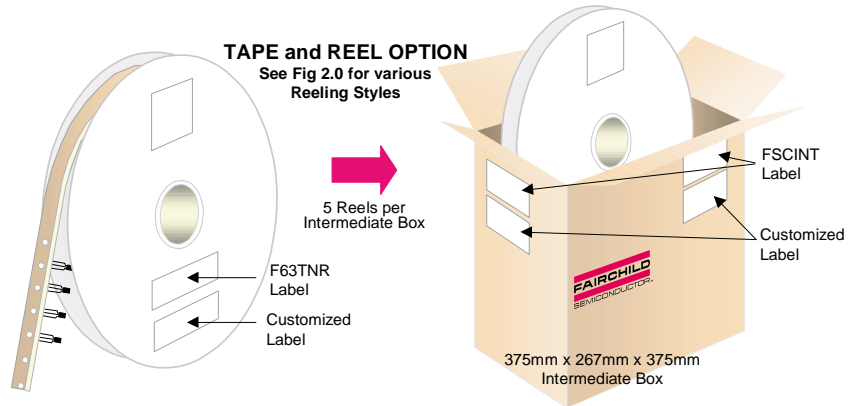
FSCINT Label sample



F63TNR Label sample



TAPE and REEL OPTION See Fig 2.0 for various Reeling Styles

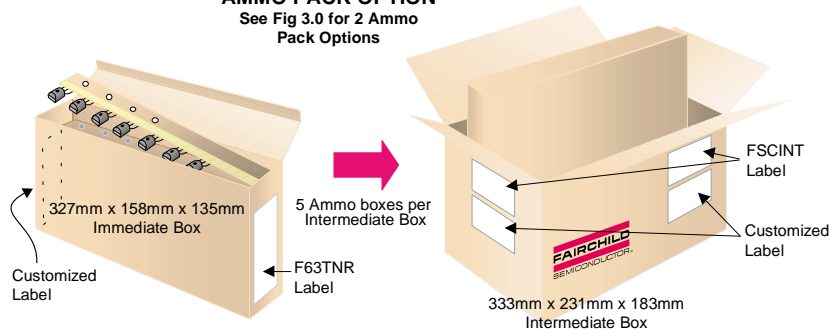


TO-92 TNR/AMMO PACKING INFORMATION

| Packing | Style | Quantity | EOL code |
|---------|-------|----------|----------|
| Reel | A | 2,000 | D26Z |
| | E | 2,000 | D27Z |
| Ammo | M | 2,000 | D74Z |
| | P | 2,000 | D75Z |

Unit weight = 0.22 gm
 Reel weight with components = 1.04 kg
 Ammo weight with components = 1.02 kg
 Max quantity per intermediate box = 10,000 units

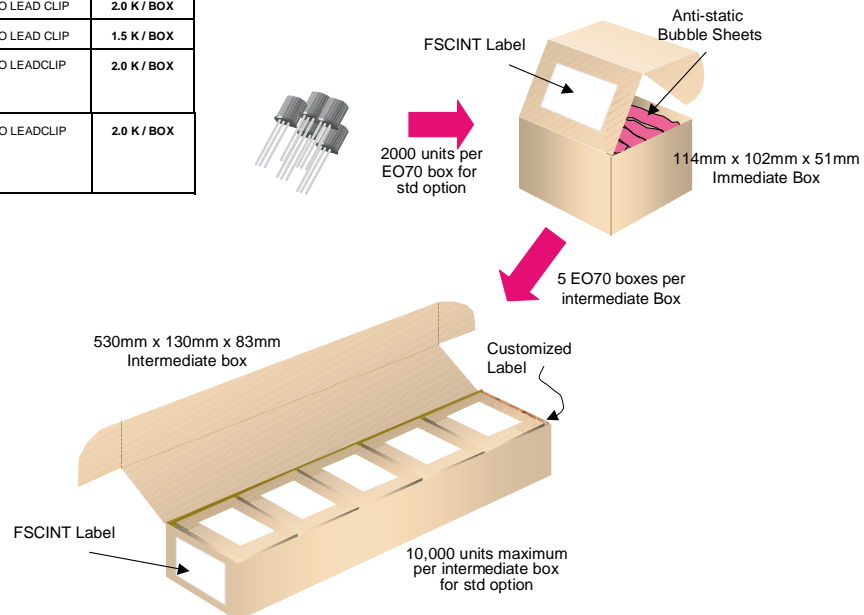
AMMO PACK OPTION See Fig 3.0 for 2 Ammo Pack Options



(TO-92) BULK PACKING INFORMATION

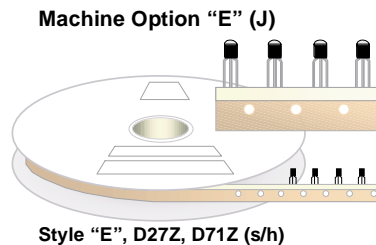
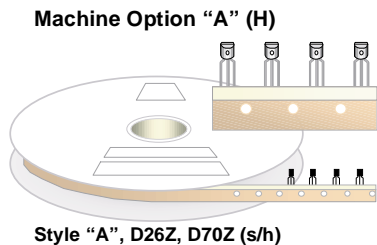
| EOL CODE | DESCRIPTION | LEADCLIP DIMENSION | QUANTITY |
|-------------|---|--------------------|-------------|
| J18Z | TO-18 OPTION STD | NO LEAD CLIP | 2.0 K / BOX |
| J05Z | TO-5 OPTION STD | NO LEAD CLIP | 1.5 K / BOX |
| NO EOL CODE | TO-92 STANDARD STRAIGHT FOR: PKG 92, 94 (NON PROELECTRON SERIES), 96 | NO LEADCLIP | 2.0 K / BOX |
| L34Z | TO-92 STANDARD STRAIGHT FOR: PKG 94 (PROELECTRON SERIES BCXXX, BFXXX, BSRXXX), 97, 98 | NO LEADCLIP | 2.0 K / BOX |

BULK OPTION See Bulk Packing Information table

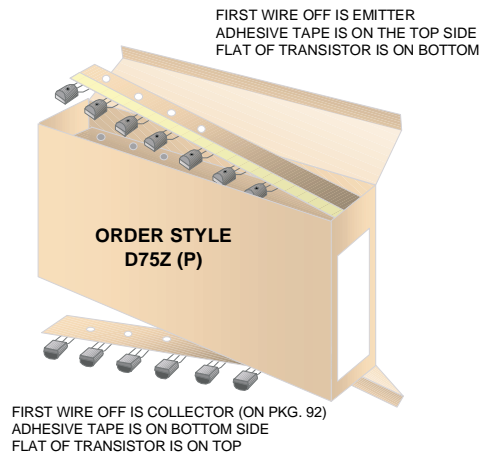
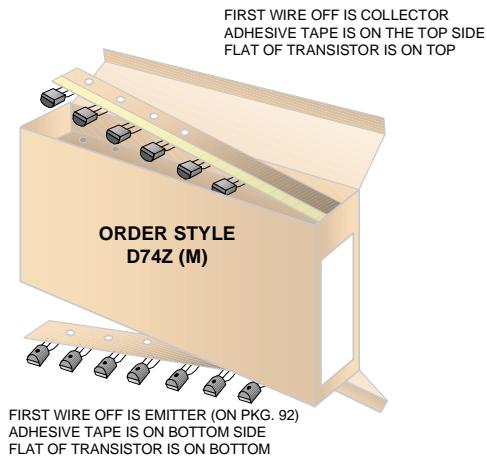


TO-92 Tape and Reel Data, continued

TO-92 Reeling Style Configuration: Figure 2.0

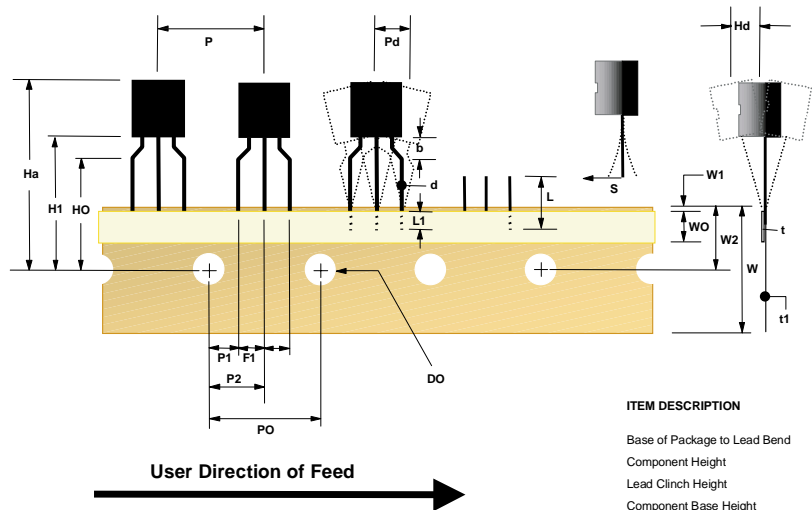


TO-92 Radial Ammo Packaging Configuration: Figure 3.0



TO-92 Tape and Reel Data, continued

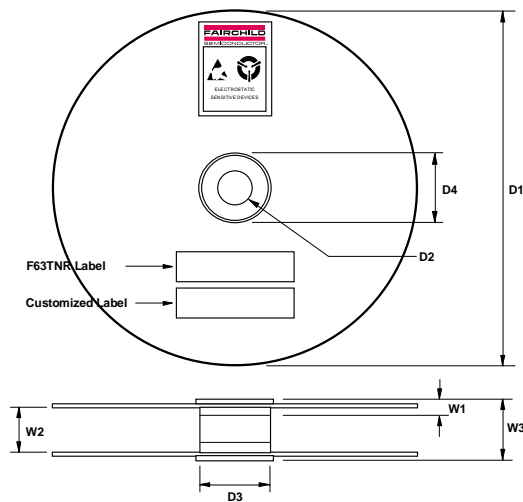
TO-92 Tape and Reel Taping Dimension Configuration: Figure 4.0



| ITEM DESCRIPTION | SYMBOL | DIMENSION |
|------------------------------------|--------|------------------------|
| Base of Package to Lead Bend | b | 0.098 (max) |
| Component Height | Ha | 0.928 (+/- 0.025) |
| Lead Clinch Height | HO | 0.630 (+/- 0.020) |
| Component Base Height | H1 | 0.748 (+/- 0.020) |
| Component Alignment (side/side) | Pd | 0.040 (max) |
| Component Alignment (front/back) | Hd | 0.031 (max) |
| Component Pitch | P | 0.500 (+/- 0.020) |
| Feed Hole Pitch | PO | 0.500 (+/- 0.008) |
| Hole Center to First Lead | P1 | 0.150 (+0.009, -0.010) |
| Hole Center to Component Center | P2 | 0.247 (+/- 0.007) |
| Lead Spread | F1/F2 | 0.104 (+/- 0.010) |
| Lead Thickness | d | 0.018 (+0.002, -0.003) |
| Cut Lead Length | L | 0.429 (max) |
| Taped Lead Length | L1 | 0.209 (+0.051, -0.052) |
| Taped Lead Thickness | t | 0.032 (+/- 0.006) |
| Carrier Tape Thickness | t1 | 0.021 (+/- 0.006) |
| Carrier Tape Width | W | 0.708 (+0.020, -0.019) |
| Hold - down Tape Width | WO | 0.236 (+/- 0.012) |
| Hold - down Tape position | W1 | 0.035 (max) |
| Feed Hole Position | W2 | 0.360 (+/- 0.025) |
| Sprocket Hole Diameter | DO | 0.157 (+0.008, -0.007) |
| Lead Spring Out | S | 0.004 (max) |

Note : All dimensions are in inches.

TO-92 Reel Configuration: Figure 5.0



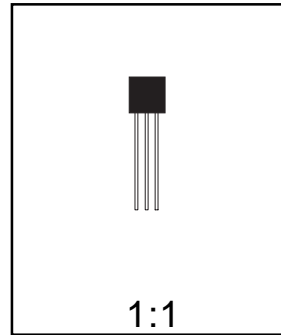
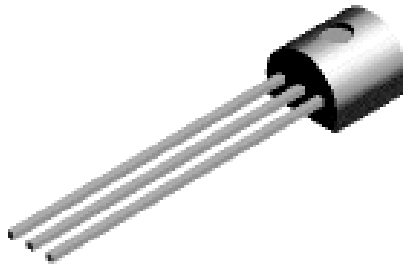
| ITEM DESCRIPTION | SYMBOL | MINIMUM | MAXIMUM |
|--------------------------------|--------|---------|---------|
| Reel Diameter | D1 | 13.975 | 14.025 |
| Arbor Hole Diameter (Standard) | D2 | 1.160 | 1.200 |
| (Small Hole) | D2 | 0.650 | 0.700 |
| Core Diameter | D3 | 3.100 | 3.300 |
| Hub Recess Inner Diameter | D4 | 2.700 | 3.100 |
| Hub Recess Depth | W1 | 0.370 | 0.570 |
| Flange to Flange Inner Width | W2 | 1.630 | 1.690 |
| Hub to Hub Center Width | W3 | | 2.090 |

Note: All dimensions are inches

TO-92 Package Dimensions



TO-92 (FS PKG Code 92, 94, 96)



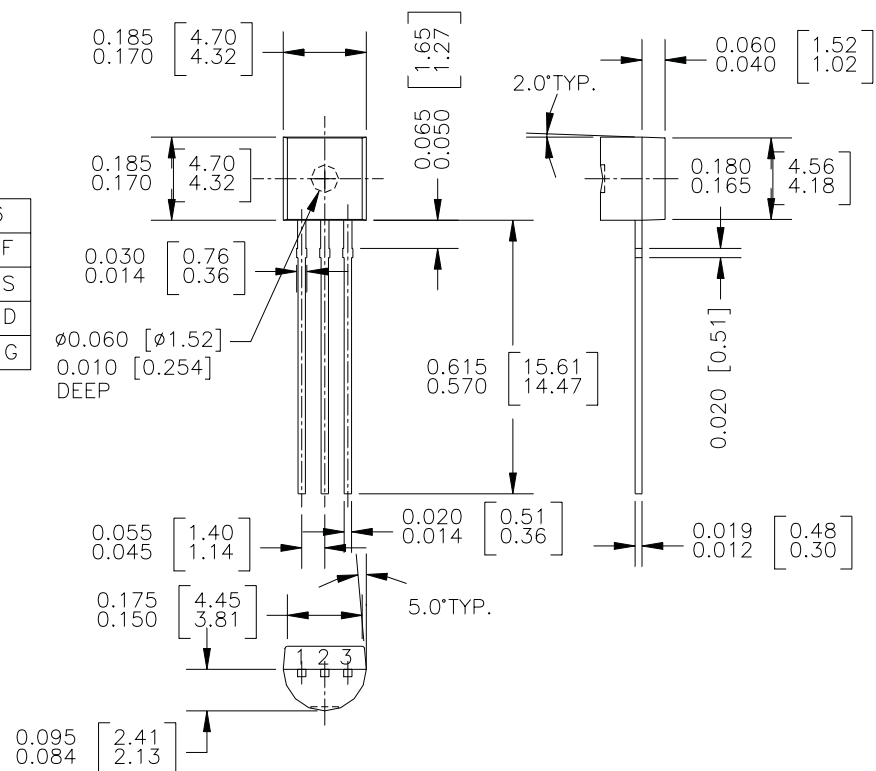
Scale 1:1 on letter size paper

Dimensions shown below are in:
inches [millimeters]

Part Weight per unit (gram): 0.1977

TO-92 (92,94,96)

| PIN | 92 | | 94 | | 96 | |
|-----|----|---|----|---|----|---|
| | B | F | B | F | B | F |
| 1 | E | D | E | D | B | S |
| 2 | B | S | C | G | E | D |
| 3 | C | G | B | S | C | G |



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