

GERMANIUM PNP MESA TRANSISTORS

Type	V_{CB0} V Max	V_{EB0} V Max	V_{CE} V Max		I_{CB0} μA Max @ V_{CB} V	h_{FE} Min Max	@ I_C mA	Cob pf Max	f _{ab} MHz Min	Pack Outline	Power Dissipation @25°C MW	
2N828A	15	2.5			6	3.0	25-	10	4.0	300	TO-18 ¹	150
2N829	15	2.5			6	3.0	50-	10	4.0	300	TO-18 ¹	150
2N808	30	2.5			15	10.0	30-	10	4.0		TO-18 ¹	150
2N960	15	2.5	7		6	3.0	20-	10	4.0	300	TO-18 ¹	150
2N961	12	2.0	7		6	3.0	20-	10	4.0	300	TO-18 ¹	150
2N962	12	1.2	7		6	3.0	20-	10	4.0	300	TO-18 ¹	150
2N962	12	1.3	7		6	3.0	20-	10	5.0	300	TO-18 ¹	150
2N963	12	2.0			6	5.0	20-	10	5.0	300	TO-18 ¹	300
2N964	15	2.5	7		6	3.0	40-	10	4.0	300	TO-18 ¹	150
2N964	15	2.5	7		6	3.0	40-	10	5.0	300	TO-18 ¹	150
2N964A	15	2.5	7		6	3.0	48-	10	4.0	300	TO-18 ¹	150
2N965	12	2.0	7		6	3.0	40-	10	4.0	300	TO-18 ¹	150
2N966	12	1.2	7		6	3.0	40-	10	4.0	300	TO-18 ¹	150
2N967	12	2.0			6	5.0	40-	10	4.0	300	TO-18 ¹	300
2N968	15	2.5			6	3.0	17-	10	8.0	300	TO-18 ¹	150
2N969	12	2.0			6	3.0	17-	10	8.0	300	TO-18 ¹	150
2N970	12	1.2			6	3.0	17-	10	8.0	300	TO-18 ¹	150
2N971	7	1.2			6	10.0	17-	10	8.0	300	TO-18 ¹	150
2N972	15	2.5			6	3.0	40-	10	8.0	300	TO-18 ¹	150
2N973	12	2.0			6	3.0	40-	10	8.0	300	TO-18 ¹	150
2N974	12	1.2			6	3.0	40-	10	8.0	300	TO-18 ¹	150
2N975	7	1.2			6	10.0	40-	10	8.0	300	TO-18 ¹	150
2N985	15	3.0	7		5	3.0	40-	10	6.0		TO-18 ¹	300
2N2635	30	2.5	15		25	5.0	30-	10	5.0		TO-18 ¹	300
2N3449	15	1.5	6		6	3.0	20-	10	5.0		TO-18 ¹	150

¹grounded collector

GERMANIUM PNP SMALL SIGNAL TRANSISTORS

Type	V_{CB0} V Max	V_{EB0} V Max	V_{CE} V Max	I_{CB0} μA Max @ V_{CB} V	h_{FE} Min Max	I_C mA @ I_C	C_{ob} pf Max	f_{ab} MHZ Min	Outline	Power Dissipation @25°C MW	
2N43A	45	5	30	45	16	34-65	20	60	0.5	R-32	240
2N44A	45	5	30	45	16	18-43	20	60	0.5	R-32	240
2N45	25	5	25	45	16	18-43	20	60	0.5	R-32	155
2N186A	25	5	25	25	16	19-31	20		0.8†	R-32	200
2N187A	25	5	25	25	16	25-42	20		1.0†	R-32	200
2N188A	25	5	25	25	16	34-65	20		1.2†	R-32	200
2N190	25		25	25	16	34-65	20		1.0†	R-32	200
2N191	25		25	25	16	53-121	20		1.2†	R-32	200
2N192	25		25	25	16	52-176	20		1.5†	R-32	200
2N241A	25	5	25	25	16	50-125	20		1.3†	R-32	200
2N319	25	3	20	25	16	25-42	20	30	2.0†	TO-5	225
2N320	25	3	20	25	16	34-65	20	30	2.5†	TO-5	225
2N321	25	3	20	25	16	53-121	20	30	3.0†	TO-5	225
2N322	16	10	18	16	16	34-65	20	30	1.0	TO-5	200
2N323	16	10	18	16	16	53-125	20	30	1.5	TO-5	200
2N324	16	10	18	16	16	72-198	20	30	2.0	TO-5	200
2N394	30	20	15	10	6	20-150	10	20	7.0†	TO-5	150
2N394A	30	20	15	12	6	30-120	10	20	7.0†	TO-5	150
2N395	30	20	15	15	6	20-150	10	20	6.0†	TO-5	200
2N396	30	20	20	20	6	30-150	10	20	5.0	TO-5	200
2N396A	30	20	20	20	6	30-150	10	20	5.0	TO-5	200
2N397	30	20	15	15	6	40-150	10	20	10.0	TO-5	200
2N398	105	50	105	105	12	20	5		1.0†	TO-5*	50
2N398A	105	50	105	105	50	20	5		1.0†	TO-5*	150
2N404	25	12	24	12	5	30	12	20	4.0	TO-5	150
2N404A	40	25	35	12	5	30	12	20	4.0	TO-5	150
2N413	30	20	18	12	5	32-300	10		5.5	TO-5	150
2N414	30	20	15	12	5	32-300	10		5.5	TO-5	150
2N426	30	20	10	30	25	30-60	1	20	6.0	TO-5	175
2N427	30	20	15	30	25	40-80	1	20	5.0	TO-5	175
2N428	30	20	12	30	25	60	1	20	10.0	TO-5	175
2N461	45	10	33	45	15	32-100	20		4.0†		200
2N464	45	12	40	20	15	14-26	1		0.7†	TO-5	150

CASE OUTLINE DRAWINGS & DIMENSIONS

Technical drawing of a mechanical part showing front and top views with dimensions.

Front View Dimensions:

- Top flange width: .335
- Top flange thickness: .370
- Top flange inner width: .205
- Top flange outer width: .335
- Top flange height: .260
- Top flange base height: .240
- Top flange base width: 1.50 MIN
- Top flange base thickness: .008
- Top flange base width: .125
- Top flange base thickness: .019
- Top flange base width: .016

Top View Dimensions:

- Top flange width: .200
- Top flange thickness: .100
- Top flange inner width: .029
- Top flange outer width: .045
- Top flange base width: .034
- Top flange base thickness: .028
- Top flange base width: .028
- Top flange base thickness: .028
- Top flange base width: .028
- Top flange base thickness: .028

Technical drawing of a 1/2-20 UNF-2A plug-in connector. The drawing shows a side view of the connector with various dimensions and labels. Key features include a hexagonal base with a central threaded hole, a central pin, and a side pin. Dimensions include: .100 ± .010 (top flange thickness), .200 ± .010 (top flange outer diameter), .437 (top flange outer diameter at a specific point), .510 MAX (top flange height), .1500 MIN (total height), .850 MAX (bottom flange height), .445 ± .010 (bottom flange outer diameter), .035 MAX (bottom flange thickness), .335 (bottom flange outer diameter at a specific point), and .025 ± .003 (side pin diameter). The bottom flange is labeled "1/2-20 UNF-2A".

Technical drawing of a hex head bolt. The drawing includes a side view at the top and an end view at the bottom. Dimensions and notes are as follows:

- Side View Dimensions:**
 - UNDERCUT 1.0" $.093 \pm .010$
 - Hex head height: $.500 \pm .015$ MAX.
 - Thread length: 1.500 MIN.
 - Thread pitch: 1/2-20 UNF 2A
 - Thread diameter: $.025 \pm .003$
 - Hex head outer diameter: $1.00 \pm .010$
- End View Dimensions:**
 - Hex head outer diameter: $.875$ MAX.
 - Hex head width across flats: $.750 \pm .010$
 - Thread diameter: $.100 \pm .010$
 - Thread pitch: $.200 \pm .010$
- Notes:**
 - NOTE 1: THREAD RELIEF IS .080 MAX. BY .430 DIA. NOMINAL.

Technical drawing of a mechanical part, showing front and top views with dimensions.

Front View Dimensions:

- Top width: .875 MAX.
- Top thickness: .250
- Shoulder thickness: .450
- Base thickness: .560
- Base width: .500
- Base width at bottom: .581
- Internal hole diameter: .135 MAX.

Top View Dimensions:

- Overall width: 1.177
- Overall depth: .675
- Inner width: .655
- Inner depth: .675
- Right side thickness: .125
- Right side thickness at bottom: .210
- Left side thickness: .420
- Left side thickness at bottom: .440
- Left side radius: 188 R MAX.
- Right side radius: .525 MAX. RAD.
- Bottom right corner radius: .151
- Bottom right corner radius at bottom: .161
- Bottom right corner radius at bottom: .205
- Bottom right corner radius at bottom: .275

Technical drawing of a 2N4350A tube socket. The top view shows a cylindrical component with dimensions: 1.250 DIA MAX., 1.005 DIA MAX., .210 DIA MAX., .360 MAX., .500 DIA MAX., .375 DIA MAX., .312 DIA MAX., .210 DIA MAX., .610 DIA MAX., 10-32 UNF-2A, .137 DIA MAX., .123 DIA MAX., .140 DIA MAX., BASE, .345 R BASIC, and EMITTER.

CASE OUTLINE DRAWINGS & DIMENSIONS

Technical drawing of a 28-pin DIP package. The top view shows a circular package with a diameter of 550 (530 to 550). The pins are arranged in two rows of 14, with pins labeled A through T. The side view shows a package with a maximum height of 970 (930 to 970). The body diameter is 430 (415 to 430). The package has a 28 UNF-28 thread and a 250 WIP full thread. The solder lugs are shown at the bottom.

Technical drawing of a mechanical part, likely a bracket or base plate, showing top and side views with dimensions in inches.

Top View Dimensions:

- Overall width: 6.20 MAX
- Slot width: .570
- Slot depth: .360 MIN
- Slot position from left edge: .470, .500
- Slot position from right edge: .250, .340
- Slot width at bottom: .028, .034
- Slot width at top: .050 MAX
- Slot width at bottom center: .050, .075
- Slot width at bottom right: .190, .210, .093, .107
- Slot width at bottom left: .145 R MAX
- Slot width at bottom right: .142, .152
- Slot width at bottom center: .350 R MAX

Side View Dimensions:

- Overall height: .958
- Slot depth: .962
- Slot width: .570
- Slot width at bottom: .590

Technical drawing of a 1N4148 diode. The top view shows a hexagonal base with a diameter of .58. The base has a thickness of .02. The collector and emitter are located on the base, with a distance of .29 between them. The emitter is labeled "EMITTER" and the collector is labeled "COLLECTOR". The base is labeled "BASE". The side view shows the diode's profile with a total height of .75. The top of the diode has a diameter of .25. The base has a diameter of .25. The diode has a length of .53. The diode is labeled "HEX NUT" and "1-1/4 - 16UN - 2A". The dimensions are: .25, .75, .25, .53, .09 DIA. (3), .58, .02, .29, 1.5, EMITTER, COLLECTOR, BASE, HEX NUT, 1-1/4 - 16UN - 2A.

The drawing shows a 2N4350 JFET with the following dimensions:

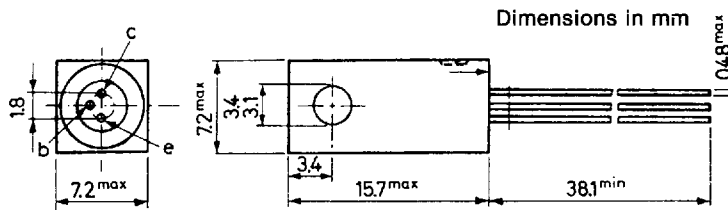
- Side View Dimensions:**
 - Gate lead thread: 3/8-24UNF-2A
 - Gate lead diameter: .093
 - Gate lead height: .82
 - Drain lead diameter: .09 DIA. (3)
 - Drain lead height: .72
 - Source lead diameter: 1.26 DIA.
 - Source lead height: .53
- Top View Dimensions:**
 - Emitter diameter: .02
 - Collector diameter: .29
 - Base diameter: .58

Technical drawing of a 28UNF-2A threaded plug. The drawing shows a side view and a top view. The side view includes dimensions: .090 MAX. for the base thickness, .50 for the base diameter, .100 for the thread length, .04 for the thread pitch, .390 ± .025 for the total height, and 1.110 MAX. for the base diameter. The top view shows a circular cross-section with four holes labeled 1, 2, 3, and 4. The dimensions for the top view are: .343 REF. for the distance between holes 1 and 2, .312 REF. for the distance between holes 2 and 3, .290 REF. for the distance between holes 3 and 4, and .112 REF. for the distance between holes 4 and 1.

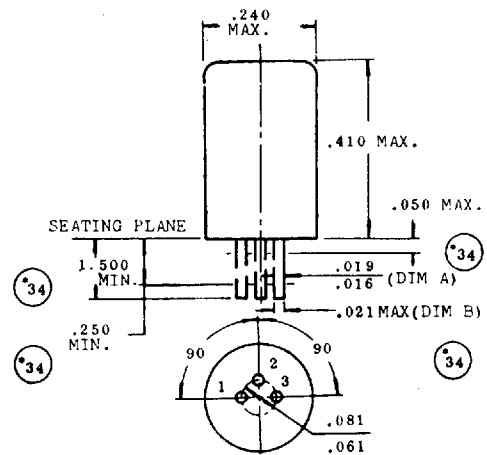
GERMANIUM POWER TRANSISTORS

CASE OUTLINE DRAWINGS & DIMENSIONS

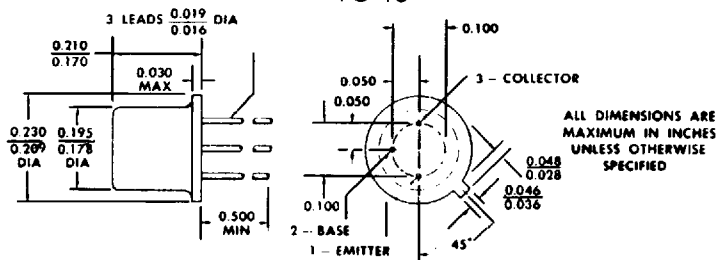
NS257



TO-1



TO-18



THE COLLECTOR IS ELECTRICAL CONTACT WITH THE CASE.

ALL JEDEC TO-18 DIMENSIONS AND NOTES ARE APPLICABLE.



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