

**NUMERICAL INDEX  
TO JAN QUALIFIED  
POWER TRANSISTORS**

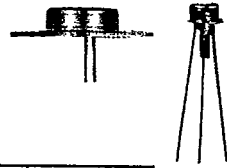
2N TYPE*	JAN	JANTX	JANTXV	MIL-S-19500	PAGE-TABLE
2N389	YES	X	X	/173A	10-A
2N424	YES	X	X	/173A	10-A
2N1016B	YES	X	X	/102A	10-B
2N1016C	YES	X	X	/102A	10-B
2N1016D	YES	X	X	/102A	10-B
2N1047A	YES	X	X	/176B	10-A
2N1048A	YES	X	X	/176B	10-A
2N1049A	YES	X	X	/176B	10-A
2N1050A	YES	X	X	/176B	10-A
2N1479	YES	X	X	/207C	10-A
2N1480	YES	X	X	/207C	10-A
2N1481	YES	X	X	/207C	10-A
2N1482	YES	X	X	/207C	10-A
2N1483	YES	YES	X	/180D	10-A
2N1484	YES	YES	X	/180D	10-A
2N1485	YES	YES	X	/180D	10-A
2N1486	YES	YES	X	/180D	10-A
2N1487	YES	X	X	/208B	10-A
2N1488	YES	X	X	/208B	10-A
2N1489	YES	X	X	/208B	10-A
2N1490	YES	X	X	/208B	10-A
2N1714	YES	X	X	/263A	10-A
2N1715	YES	X	X	/263A	10-A
2N1716	YES	X	X	/263A	10-A
2N1717	YES	X	X	/263A	10-A
2N1722	YES	YES	X	/262F	10-A
2N1724	YES	YES	X	/262F	10-A
2N2015	YES	X	X	/248A	10-B
2N2016	YES	X	X	/248A	10-B
2N2812	YES	YES	YES	/415	10-B
2N2814	YES	YES	YES	/393A	10-A
2N3418	YES	YES	YES	/393A	10-A
2N3419	YES	YES	YES	/393A	10-A
2N3420	YES	YES	YES	/393A	10-A
2N3421	YES	YES	YES	/393A	10-A
2N3439	YES	YES	YES	/368A	11-C
2N3440	YES	YES	YES	/368A	11-C
2N3584	YES	YES	YES	/384B	11-C
2N3585	YES	YES	YES	/384B	11-C
2N3715	YES	YES	YES	/408C	10-B
2N3716	YES	YES	YES	/408C	10-B
2N3739	YES	YES	YES	/441B	11-C
2N3740	YES	YES	YES	/441B	12-E
2N3741	YES	YES	YES	/518A	12-E
2N3766	YES	YES	YES	/518A	10-A

2N TYPE*	JAN	JANTX	JANTXV	MIL-S-19500	PAGE-TABLE
2N3767	YES	YES	YES	/518A	10-A
2N3846	YES	YES	X	/412	11-C
2N3847	YES	YES	X	/412	11-C
2N3867	YES	YES	YES	/350A	12-E
2N3868	YES	YES	YES	/350A	12-E
2N3879	YES	YES	YES	/526A	10-B
2N3902	YES	YES	X	/371A	11-C
2N5038	YES	YES	YES	/439A	10-B
2N5039	YES	YES	YES	/439A	10-B
2N5157	YES	YES	X	/371A	11-C
2N5302	YES	YES	YES	/456B	10-B
2N5303	YES	YES	YES	/456B	10-B
2N5671	YES	YES	YES	/488A	10-B
2N5672	YES	YES	YES	/488A	10-B
2N5685	YES	YES	YES	/464	10-B
2N5686	YES	YES	YES	/464	10-B
2N6211	YES	YES	X	/461	12-E
2N6212	YES	YES	X	/461	12-E
2N6213	YES	YES	X	/461	12-E
2N6249	YES	YES	YES	/510	11-C
2N6250	YES	YES	YES	/510	11-C
2N6251	YES	YES	YES	/510	11-C
2N6274	YES	YES	YES	/514	10-B
2N6277	YES	YES	YES	/514	10-B
2N6283	YES	YES	YES	/504	12-D
2N6284	YES	YES	YES	/504	12-D
2N6298	YES	YES	YES	/540	12-D
2N6299	YES	YES	YES	/540	12-D
2N6300	YES	YES	YES	/539	12-D
2N6301	YES	YES	YES	/539	12-D
2N6306	YES	YES	YES	/498	11-C
2N6308	YES	YES	YES	/498	11-C
2N6338	YES	YES	YES	/509	10-B
2N6341	YES	YES	YES	/509	10-B
2N6350	YES	YES	X	/472A	12-D
2N6351	YES	YES	X	/472A	12-D
2N6352	YES	YES	X	/472A	12-D
2N6353	YES	YES	X	/472A	12-D
2N6383	YES	YES	YES	/523	12-D
2N6384	YES	YES	YES	/523	12-D
2N6385	YES	YES	YES	/523	12-D

\*All available as JEDEC 2NXXXX

X = indicates not available

**SELECTION TABLES TO NPN JAN QUALIFIED POWER TRANSISTORS**



**TABLE A**

$I_c$ Max	0.5A	0.75A	1.0A	1.5A	3.0A		4.0A	5.0A		6.0A	
Package	TO-57	TO-5	TO-53	TO-5	TO-5	TO-8	TO-66	TO-53	TO-61	TO-3	
Rated Collector To Emitter Voltage (V <sub>CEO</sub> )	40V			2N1479 2N1481		2N1483 2N1485				2N1487 2N1489	
	45V										
	50V										
	55V				2N1480 2N1482		2N1484 2N1486			2N1488 2N1490	
	60V		2N1714 2N1716	2N389		2N3418 2N3420		2N3766			
	65V										
	70V										
	75V										
	80V	2N1047A 2N1049A		2N424		2N3419 2N3421		2N3767	2N1722	2N1724	
	90V										
	100V		2N1715 2N1717								
	120V	2N1048A 2N1050A									
MIN $h_{FE}$ @ $I_c$	12 @ 0.5A 2N1047, 2N1048A 30 @ 0.5A 2N1049A, 2N1050A	20 @ 0.2A 2N1714, 2N1715 40 @ 0.2A 2N1716, 2N1717	15 @ 1.0A	20 @ 0.2A 2N1479, 2N1480 35 @ 0.2A 2N1481, 2N1482	20 @ 1.0A 2N3418, 2N3419 40 @ 1.0A 2N3420, 2N3421	20 @ 0.75A 2N1483, 2N1484 35 @ 0.75A 2N1485, 2N1486	40 @ 0.5A	20 @ 2.0A		15 @ 1.5A 2N1487, 2N1488 25 @ 1.5A 2N1489, 2N1490	
V <sub>CE(SAT)</sub> @ $I_c$	7.5V @ 0.5A	2.0V @ 0.2A	5.0V @ 1.0A 10.0V @ 1.0A	1.4V @ 0.2A	0.25V @ 1.0A	2V @ 0.75A 2N1483, 2N1484 0.75V @ 0.75A 2N1485, 2N1486	1.0V @ 0.5A	1.0V @ 2.0A		3.0V @ 1.5A 2N1487, 2N1488 1.0V @ 1.5A 2N1489, 2N1490	

**TABLE B**

$I_c$ Max	7.0A	7.5A	10.0A			20.0A	25.0A	30.0A	50.0A				
Package	TO-66	TO-82	TO-3	TO-36	TO-61	TO-3	TO-3	TO-3	TO-3				
Rated Collector To Emitter Voltage (V <sub>CEO</sub> )	50V			2N2015	2N2812								
	60V			2N3715				2N5302			2N5685		
	65V			2N2016									
	70V					2N2814							
	75V	2N3879					2N5039						
	80V			2N3716				2N5303				2N5686	
	90V						2N5038			2N5671			
	100V		2N1016B						2N6338				2N6274
	120V									2N5672			
	140V												
	150V		2N1016C						2N6341				2N6277
200V		2N1016D											
MIN $h_{FE}$ @ $I_c$	12 @ 4A	20 @ 2A	10 @ 5A	15 @ 5A	40 @ 5A	20 @ 10A 2N5039 20 @ 12A 2N5038	15 @ 10A	30 @ 10A	15 @ 15A	20 @ 15A	15 @ 25A	30 @ 20A	
V <sub>CE(SAT)</sub> @ $I_c$	1.2V @ 4A	2.5V @ 5A	1.0V @ 5A	1.25V @ 5A	0.5V @ 5A	1V @ 10A 2N5039 1V @ 12A 2N5038	1.5V @ 10A	1.0V @ 10A	1.0V @ 15A	0.75V @ 15A	1.0V @ 25A	1.2V @ 20A	

TO-8 TO-5 TO-66 TO-53 TO-61 TO-63 TO-82 TO-36

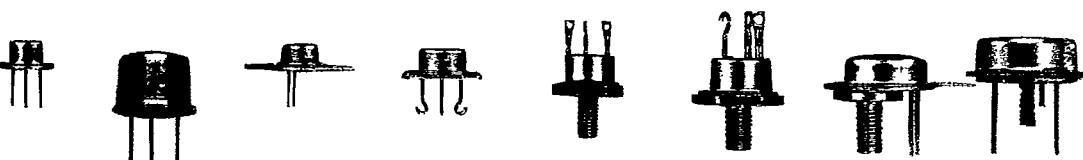


TABLE C

I <sub>c</sub> Max	0.5A	1.0A	2.0A	3.5A	5.0A	8.0A	10.0A	20.0A
Package	TO-5	TO-5	TO-66	TO-3	TO-66	TO-3	TO-3	TO-63
Rated Collector To Emitter Voltage (V <sub>CEO</sub> )	200V							2N3846
	225V						2N6249*	
	250V	2N3440				2N6306		
	300V			2N3739		2N3584*		2N6250* 2N3847
	325V				2N3902			
	350V	2N3439					2N6308	
	375V							2N6251*
	400V					2N3585*		
	450V		2N5097					
	500V				2N5157			
h <sub>FE</sub> MIN. @ I <sub>c</sub>	40@20mA	15@ 0.1A	40@ 0.1A	30@ 1.0A	25@ 1.0A	15@3.0A 12@3.0A 2N6308	10@10.0A 8@10.0A 6@10.0A	40@ 5.0A
		V <sub>CE(SAT)</sub> @ I <sub>C</sub>	0.5V@ 50mA	0.5V@ 25mA	2.5V@ 0.25A	0.8V@ 1.0A	0.75V@ 1.0A	0.8V@3.0A 1.5V@3.0A 2N6308

\*V<sub>CE</sub>R Rating

How to use the selection table

Based on the application, determine the rated voltage and collector current required, including standard safety factors.

Locate the collector current to the right of the I<sub>c</sub> Max column. Follow the column down to the desired voltage rating.

Select the proper device based on package requirements and listed electrical characteristics.

Note: there are other device characteristics such as switching speeds, leakage currents, that must be considered. For complete electrical characteristics, consult the factory.

**SELECTION TABLE  
TO DARLINGTON  
JAN QUALIFIED  
POWER TRANSISTORS**

**TABLE D**

Polarity		NPN				PNP	
I <sub>c</sub> Max		5.0A		8.0A	10.0A	20.0A	8.0A
Package		TO-33	F-24	TO-66	TO-3	TO-3	TO-66
Rated Collector To Emitter Voltage (V <sub>CEO</sub> )	40V				2N6383		
	60V			2N6300	2N6384		2N6298
	80V	2N6350	2N6352	2N6301	2N6385	2N6283	2N6299
	100V					2N6284	
	150V	2N6351	2N6353				
h <sub>FE</sub> MIN. @I <sub>c</sub>	2000 @1.0A (2N6350 & 2N6353)			750 @4.0A	1000 @5.0A	750 @10.0A	750 @4.0A
	1000 @1.0A (2N6351 & 2N6353)						
V <sub>CE(SAT)</sub> @I <sub>c</sub>	1.5V @5.0A			2V @4.0A	2V @5.0A	2V @10.0A	2V @4.0A



TO-33



F-24



TO-66



TO-3

**TABLE E**

I <sub>c</sub> Max		1.0A	2.0A	3.0A
Package		TO-66	TO-66	TO-5
Rated Collector To Emitter Voltage (V <sub>CEO</sub> )	40V			2N3867
	60V	2N3740		2N3868
	80V	2N3741		
	250V		2N6211*	
	325V		2N6212*	
	375V		2N6213*	
	450V			
h <sub>FE</sub> MIN. @I <sub>c</sub>	30 @0.25A	10 @1.0A	25@2.5A 20@2.5A	
V <sub>CE(SAT)</sub> @I <sub>c</sub>	0.6 @1.0A	1.4V@1.0A	1.3V @2.5A	
		1.6V@1.0A		
		2.0V@1.0A		

\*VCER Rating



TO-5

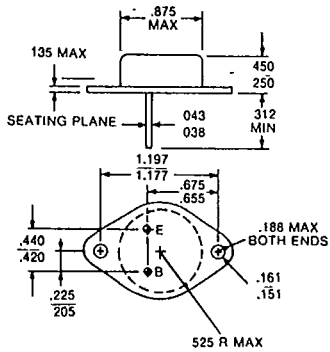


TO-66

**SELECTION TABLE  
TO PNP JAN  
QUALIFIED POWER  
TRANSISTORS**

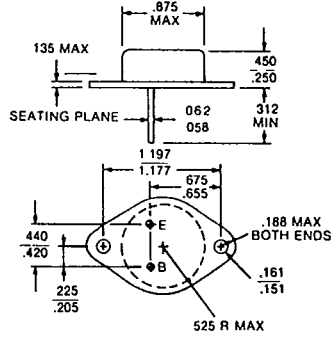
PACKAGE DESCRIPTIONS AND OUTLINE DRAWINGS

TO-3 PACKAGE



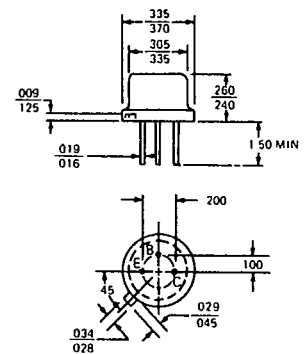
Collector is connected to case.

MODIFIED TO-3 PACKAGE  
(60 mil pins)



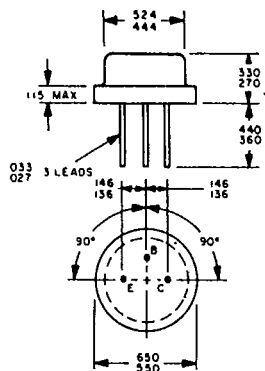
Collector is connected to case.

TO-5 PACKAGE



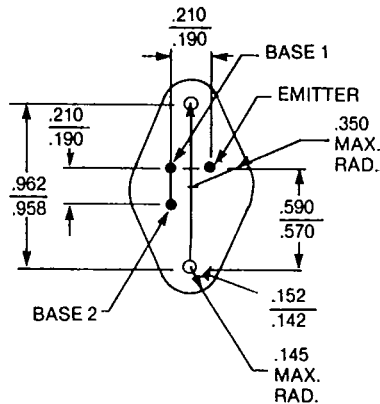
Collector is connected to case.

TO-8 PACKAGE



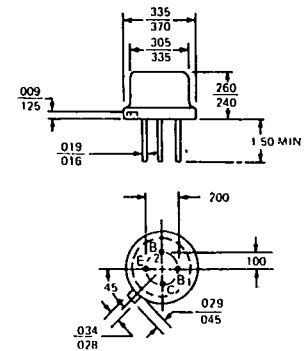
Collector is connected to case.

F-24 PACKAGE  
(3-LEADED TO-66)



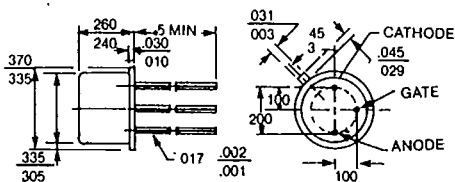
Collector is connected to case.

TO-33 PACKAGE



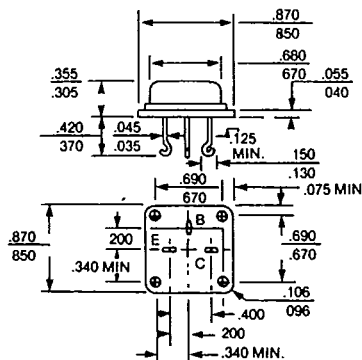
Collector is connected to case.

TO-39 PACKAGE



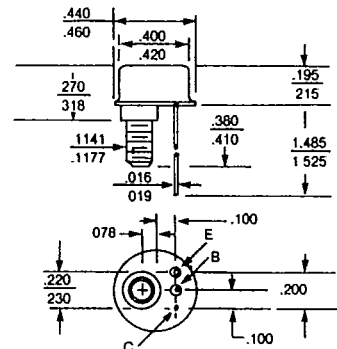
Collector is connected to case.

TO-53 PACKAGE



Collector is connected to case.

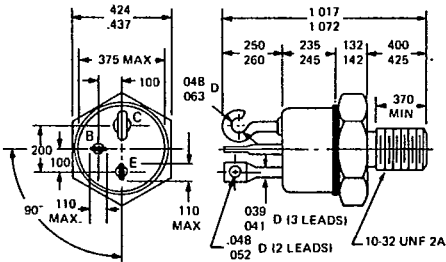
TO-57 PACKAGE



Collector is connected to case.

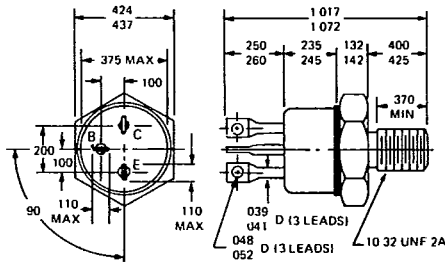
T-33-11

**TO-59 PACKAGE**



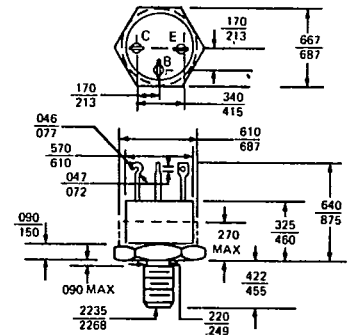
Collector is connected to case.

**TO-59 PACKAGE  
ISOLATED COLLECTOR**



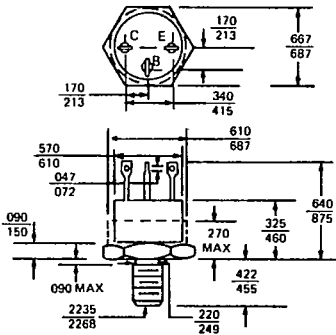
Collector is electrically isolated from case.

**TO-61 PACKAGE**



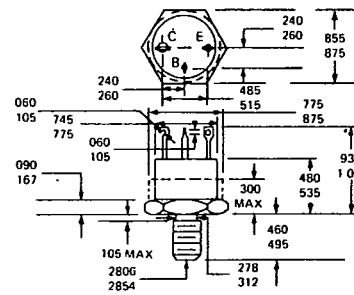
Collector is connected to case.

**TO-61 PACKAGE  
ISOLATED COLLECTOR**



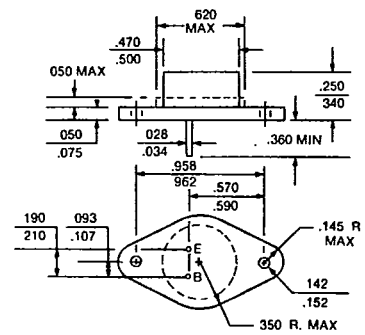
Collector is electrically isolated from case.

**TO-63 PACKAGE**



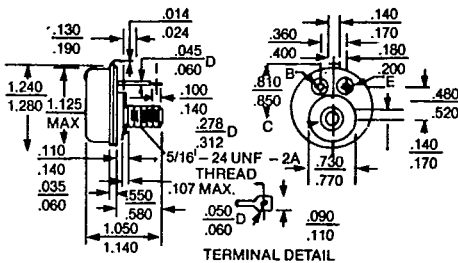
Collector is connected to case.

**TO-66 PACKAGE**



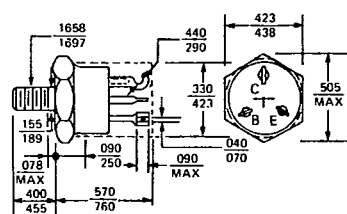
Collector is connected to case.

**TO-82 PACKAGE**



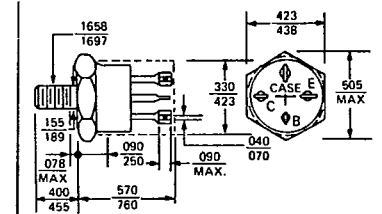
Collector is connected to case.

**TO-111 PACKAGE**



Collector is connected to case.

**TO-111 PACKAGE  
ISOLATED COLLECTOR**



Collector is electrically isolated from case.