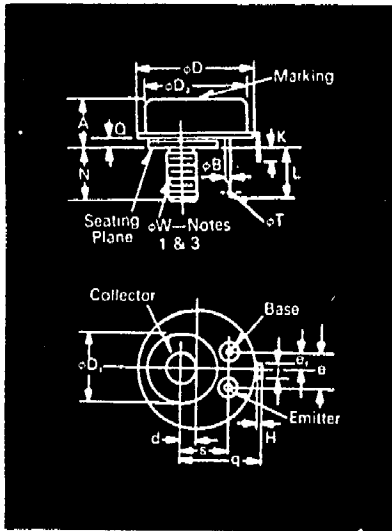


**NPN Power  
TRANSISTORS  
151/152**      **6 Amperes  
40-240 Volts**



Conforms to MT-1 Outline

Symbol	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	.500	.560	12.70	14.22
$\phi B$	.045	.060	1.14	1.52
d	.140	.170	3.56	4.32
$\phi D$	1.240	1.280	31.50	32.51
$\phi D_1$	.730	.770	18.54	19.56
$\phi D_2$		1.125		28.58
e	.360	.400	9.14	10.16
e <sub>1</sub>	.180	.200	4.57	5.08
H	.014	.025	.36	.64
J	.140	.170	3.56	4.32
K	.130	.190	3.30	4.83
L	.550	.590	13.97	14.99
N	.550	.590	13.97	14.99
Q	.810	.850	20.57	21.59
Q <sub>1</sub>	.105	.140	2.67	3.56
S	.480	.520	12.19	13.21
$\phi T$	.050	.070	1.27	1.78
$\phi W$	1/4-24 UNF-2A			

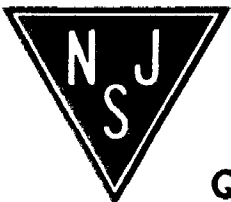
- Finish: Nickel Plate.  
Approx. Weight: .9 oz. (25 g).
- Complete threads to extend to within 2/3 threads of seating plane.
  - Contour and angular orientation of terminals is undefined.
  - Pitch diameter of 1/4-24 UNF-2A (coated) threads (ASA B1.1-1960).

**Maximum Ratings  
Voltage**

Type	V <sub>CB0</sub>	V <sub>CE0</sub>
151-04	65	40
151-06	85	60
151-08	105	80
151-10	125	100
151-12	145	120
151-14	165	140
151-16	185	160
151-18	205	180
151-20	225	200
151-22	245	220
151-24	265	240

**Maximum Ratings and Characteristics  
T<sub>c</sub> = 25°C unless specified**

	Symbol	151 / 152	Units
Operating and storage temperature		-65 to 150	°C
Collector-emitter sustaining voltage	V <sub>CE0</sub> (sus)	40 to 240	Volts
Collector-base voltage	V <sub>CB0</sub>	V <sub>CE0</sub> (sus) + 25	Volts
Emitter-base voltage	V <sub>EB0</sub>	25	Volts
Continuous collector current	I <sub>C</sub>	6	Amps
Continuous base current	I <sub>B</sub>	3	Amps
Linear power derating factor from T <sub>c</sub> = 80°C		1.4	W/°C
Thermal resistance	R <sub>θJC</sub>	71	°C/W
Power dissipation	P <sub>T</sub>	175	Watts
Power dissipation T <sub>c</sub> = 100°C	P <sub>T</sub>	70	Watts



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

**Quality Semi-Conductors**

### Electrical Characteristics

T<sub>C</sub>=25°C unless otherwise specified

	Symbol	Type 151		Type 152	
		Min.	Max.	Min.	Max.
Collector cut-off current at V <sub>CEX</sub> =max. rating, V <sub>BE</sub> =-1.5 Vdc, mAdc.....	I <sub>CEX</sub>	..	10	..	10
Collector cut-off current at V <sub>CEX</sub> =max. rating, T <sub>C</sub> =150°C, V <sub>BE</sub> =-1.5 Vdc, mAdc....	I <sub>CEX</sub>	..	20	..	20
Emitter cut-off current at V <sub>EB</sub> =25 Vdc, I <sub>C</sub> =0, T <sub>C</sub> =150°C, mAdc.....	I <sub>EBO</sub>	..	20	..	20
Turn-on time at V <sub>CC</sub> =12 Vdc, I <sub>C</sub> =1.5A, I <sub>B</sub> =.4A, microseconds.....	t <sub>on</sub>	..	7	..	..
Turn-on time at V <sub>CC</sub> =12 Vdc, I <sub>C</sub> =1.5A, I <sub>B</sub> =.25A, microseconds.....	t <sub>on</sub>	..	..	..	7
Turn-off time at V <sub>CC</sub> =12 Vdc, V <sub>BE</sub> =-25 Vdc, I <sub>C</sub> =1.5A, I <sub>B</sub> =-.4A, microseconds..	t <sub>off</sub>	..	14	..	..
Turn-off time at V <sub>CC</sub> =12 Vdc, V <sub>BE</sub> =-25 Vdc, I <sub>C</sub> =1.5A, I <sub>B</sub> =-.25A, microseconds..	t <sub>off</sub>	..	..	..	14
Collector-emitter saturation voltage at I <sub>C</sub> =1.5 Adc, I <sub>B</sub> =0.25 Adc, Vdc.....	V <sub>CE(sat)</sub>	..	1.30	..	1.25
Base-emitter voltage at I <sub>C</sub> =1.5 Adc, I <sub>B</sub> =0.25 Adc, Vdc.....	V <sub>BE(sat)</sub>	..	2.5	..	2.0
Dc current gain at V <sub>CE</sub> =4 Vdc, I <sub>C</sub> =1.5 Adc.....	h <sub>FE</sub>	11	..	18	..
Collector-emitter sustaining voltage, base open, I <sub>C</sub> = 200ma .....	V <sub>CEO (sus)</sub>	See Voltage Table			
Second breakdown Collector Current, V <sub>CE</sub> = 150V, T <sub>C</sub> = 80°C (one second test), forward bias, Amperes .....	I <sub>S/B</sub>	...	68	...	.68
Second breakdown energy, base reverse biased, L =250 mh, R <sub>B</sub> = 50 ohms, V <sub>BE</sub> = -6.0 volts, I <sub>C</sub> = 2.0 Amperes, Joules .....	E <sub>S/B</sub>	...	.50	...	.50
Gain-bandwidth, V <sub>CE</sub> = 10 Volts, I <sub>C</sub> = 0.5 Amps, Kilohertz .....	f <sub>t</sub>	250	...	250	...