

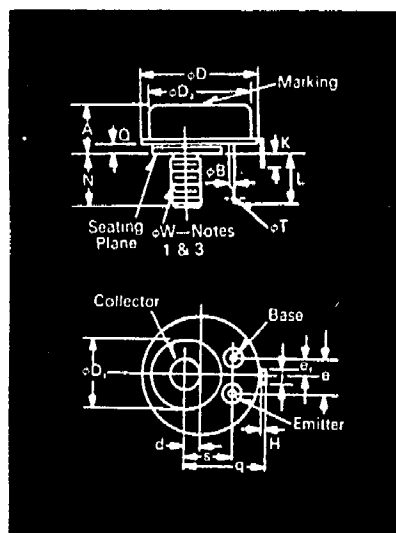
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NPN Power TRANSISTORS 151/152

6 Amperes
40—240 Volts



Conforms to MT-1 Outline

Symbol	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	.500	.560	12.70	14.22
φB	.045	.060	1.14	1.52
d	.140	.170	3.56	4.32
φD	1.240	1.280	31.50	32.51
φD ₁	.730	.770	18.54	19.56
φD ₂		1.125		28.58
e	.360	.400	9.14	10.16
e ₁	.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 ₁	.105	.140	2.67	3.56
S	.480	.520	12.19	13.21
φT	.050	.070	1.27	1.78
φW	1/16-24 UNF-2A			

Finish: Nickel Plate.

Approx. Weight: .9 oz. (25 g).

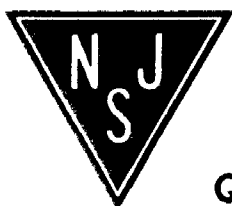
1. Complete threads to extend to within 2% threads of seating plane.
2. Contour and angular orientation of terminals is undefined.
3. Pitch diameter of 1/16-24 UNF-2A (coated) threads (ASA B1.1-1960).

Maximum Ratings Voltage

Type		V _{CB0}	V _{CE0}
151-04	152-04	65	40
151-06	152-06	85	60
151-08	152-08	105	80
151-10	152-10	125	100
151-12	152-12	145	120
151-14	152-14	165	140
151-16	152-16	185	160
151-18	152-18	205	180
151-20	152-20	225	200
151-22	152-22	245	220
151-24	152-24	265	240

Maximum Ratings and Characteristics T_c = 25°C unless specified

	Symbol	151 / 152	Units
Operating and storage temperature		-65 to 150	°C
Collector-emitter sustaining voltage	V _{CE0} (sus)	40 to 240	Volts
Collector-base voltage	V _{CB0}	V _{CE0} (sus) + 25	Volts
Emitter-base voltage	V _{EB0}	25	Volts
Continuous collector current	I _C	6	Amps
Continuous base current	I _B	3	Amps
Linear power derating factor from T _c = 80°C		1.4	W/°C
Thermal resistance	R _{θJC}	71	°C/W
Power dissipation	P _T	175	Watts
Power dissipation T _c = 100°C	P _T	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_C=25°C unless otherwise specified

	Symbol	Type 151		Type 152	
		Min.	Max.	Min.	Max.
Collector cut-off current at V _{CEX} =max. rating, V _{BE} =-1.5 Vdc, mAdc.....	I _{CEX}	..	10	..	10
Collector cut-off current at V _{CEX} =max. rating, T _C =150°C, V _{BE} =-1.5 Vdc, mAdc....	I _{CEX}	..	20	..	20
Emitter cut-off current at V _{EB} =25 Vdc, I _C =0, T _C =150°C, mAdc.....	I _{EB0}	..	20	..	20
Turn-on time at V _{CC} =12 Vdc, I _C =1.5A, I _B =.4A, microseconds.....	t _{on}	..	7	..	..
Turn-on time at V _{CC} =12 Vdc, I _C =1.5A, I _B =.25A, microseconds.....	t _{on}	..	..	..	7
Turn-off time at V _{CC} =12 Vdc, V _{BE} =-25 Vdc, I _C =1.5A, I _B =-.4A, microseconds..	t _{off}	..	14	..	..
Turn-off time at V _{CC} =12 Vdc, V _{BE} =-25 Vdc, I _C =1.5A, I _B =-.25A, microseconds..	t _{off}	..	..	..	14
Collector-emitter saturation voltage at I _C =1.5 Adc, I _B =0.25 Adc, Vdc.....	V _{CE(sat)}	..	1.30	..	1.25
Base-emitter voltage at I _C =1.5 Adc, I _B =0.25 Adc, Vdc.....	V _{BE(sat)}	..	2.5	..	2.0
Dc current gain at V _{CE} =4 Vdc, I _C =1.5 Adc.....	h _{FE}	11	..	18	..
Collector-emitter sustaining voltage, base open, I _C = 200ma	V _{CEO (sus)}	See Voltage Table			
Second breakdown Collector Current, V _{CE} = 150V, T _C = 80°C (one second test), forward bias, Amperes	I _{S/B}	...	68	...	.68
Second breakdown energy, base reverse biased, L =250 mh, R _B = 50 ohms, V _{BE} = -6.0 volts, I _C = 2.0 Amperes, Joules	E _{S/B}	...	.50	...	.50
Gain-bandwidth, V _{CE} = 10 Volts, I _C = 0.5 Amps, Kilohertz	f _t	250	...	250	...