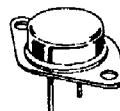


BU500

**6 AMPERES
NPN SILICON
POWER
METAL TRANSISTOR
1500 VOLTS
75 WATTS**



HORIZONTAL DEFLECTION TRANSISTOR

... specifically designed for use in large screen color deflection circuits

- $V_{CEX} = 1500\text{ V}$;
 $V_{CEO(sus)} = 700\text{ V (min.)}$
- Low saturation:
 $V_{CE(sat)} = 1\text{ V (max.) @ } I_c = 4.5\text{ Adc}$

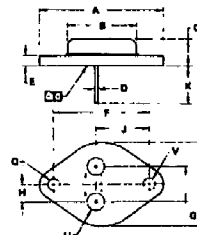
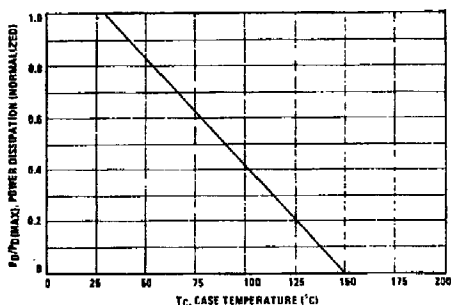
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO(sus)}$	700	Vdc
Collector-Base Voltage	V_{CBO}	1500	Vdc
Emitter-Base Voltage	V_{EBO}	5	Vdc
Collector-Emitter Voltage ($V_{BE} = -2.0\text{ V}$)	V_{CEX}	1500	Vdc
Collector-Current — continuous	I_C	6	A _{dc}
— peak ($p_w \leq 300\ \mu\text{s}$)	I_{CM}	16	A _{pk}
Base-Current continuous	I_B	4	A _{dc}
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	P_D	75	Watts
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to 150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.66	$^\circ\text{C/W}$

FIGURE 1 - POWER DERATING



- NOTES
1 DIMENSIONS Q AND V ARE DATUMS
2 \square IS SEATING PLANE AND DATUM
3 POSITIONAL TOLERANCE FOR MOUNTING HOLE Q

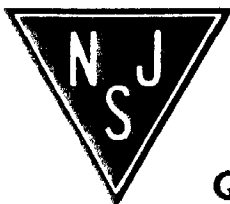
$\phi \pm 0.13\text{ TO }0.064 \text{ (T) } \square \text{ (V) } \square \text{ (Q)}$
FOR LEADS

$\phi \pm 0.13\text{ TO }0.050 \text{ (T) } \square \text{ (V) } \square \text{ (Q)}$

4 DIMENSIONS AND TOLERANCES PER ANSI Y14.5, 1975

DIM.	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	25.37	-	1.000	-
B	21.08	-	0.830	-
C	5.31	12.2	0.210	0.480
D	0.92	1.00	0.036	0.040
E	-	3.43	-	0.135
F	10.16	11.80	0.400	0.465
G	10.27	10.50	0.405	0.413
H	8.15	8.80	0.320	0.347
J	15.88	16.50	0.625	0.650
K	11.18	12.18	0.440	0.480
L	3.42	4.18	0.135	0.165
M	-	18.8	-	0.750
N	4.82	5.35	0.190	0.210
V	3.81	4.37	0.150	0.175

TO-3



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.

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS (1)

Collector-Emitter Sustaining Voltage ($I_C = 500\text{ mAdc}$, $I_B = 0$) $L = 10\text{ mH}$	$V_{CE(sus)}$	700		Vdc
Collector Cutoff Current at Reverse Bias: ($V_{CE} = 1000\text{ V}$, $I_E = 0$) ($V_{CE} = 1500\text{ V}$, $I_E = 0$)	I_{CBO}		0.02 1.0	mAdc
Collector-Emitter Cutoff Current ($V_{CE} = 1500\text{ V}$, $V_{BE} = -2\text{ V}$)	I_{CEX}		1.0	mAdc
Emitter-Base Reverse Voltage ($I_E = 100\text{ mA}$)	V_{EBO}	5		V
Emitter Cutoff Current ($V_{EB} = 4\text{ V}$)	I_{EBO}		10	mAdc

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 4.5\text{ Adc}$, $V_{CE} = 5\text{ V}$)	h_{FE}	3.0		-
Collector-Emitter Saturation Voltage ($I_C = 4.5\text{ Adc}$, $I_B = 2\text{ A}$)	$V_{CE(sat)}$		1.0	Vdc
Base-Emitter On Voltage ($I_C = 4.5\text{ Adc}$, $V_{CE} = 2\text{ A}$)	$V_{BE(on)}$		1.3	Vdc

SWITCHING CHARACTERISTICS (Resistive Load)

	($V_{CC} = 100\text{ Vdc}$, $I_C = 4.5\text{ A}$, $I_{B1} = 1.5\text{ A}$, $I_{B2} = 1.5\text{ A}$)		-		μs
Storage Time		t_s	-	1.2	
Fall Time		t_f	-	1.0	

(1) Pulse Test: Pulse Width = $300\ \mu\text{s}$, Duty Cycle $\leq 2\%$