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BU500

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:
 $V_{CE(sat)} = 1 \text{ V (max.) @ } I_C = 4.5 \text{ Adc}$

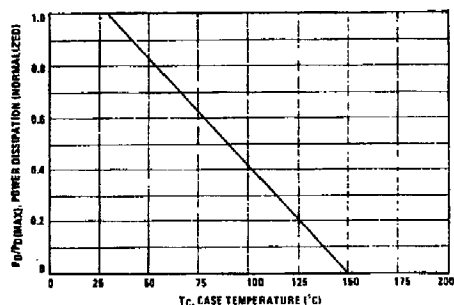
MAXIMUM RATINGS

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	Adc
— peak ($p_w \leq 300 \mu\text{s}$)	I_{CM}	16	Apk
Base-Current continuous	I_B	4	Adc
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	$^\circ\text{C}$

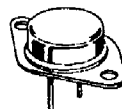
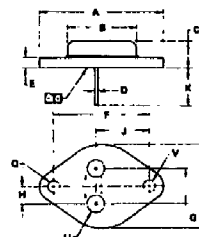
THERMAL CHARACTERISTICS

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

FIGURE 1 — POWER DERATING



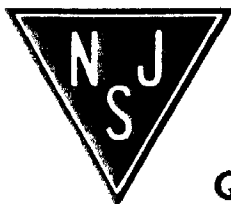
6 AMPERES
NPN SILICON
POWER
METAL TRANSISTOR
1500 VOLTS
75 WATTS



- NOTES
1 DIMENSIONS Q AND V ARE DATUMS
2 $\square$ IS SEATING PLANE AND DATUM
3 POSITIONAL TOLERANCE FOR MOUNTING HOLE Q
4 DIMENSIONS AND TOLERANCES PER ANSI Y14.5, 1975

MILLIMETERS		INCHES		
DIM	MIN	MAX	MIN	MAX
A		25.37	-	1.000
B	-	27.00	-	0.813
C	6.35	7.62	0.250	0.300
D	0.92	1.00	0.035	0.041
E	-	3.43	-	0.135
F	10.16	RSC	1.00	RSC
G	10.92	RSC	0.430	RSC
H	8.46	RSC	0.335	RSC
J	10.92	RSC	0.665	RSC
K	12.19	12.19	0.480	0.480
L	3.43	4.19	0.130	0.165
M	-	28.07	-	1.070
U	4.82	6.33	0.190	0.250
V	3.81	4.19	0.150	0.165

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.

Quality Semi-Conductors

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

Characteristic	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS (1)				
Collector-Emitter Sustaining Voltage ($I_C = 500\text{ mAdc}$, $I_B = 0$) $L \leq 10\text{ mH}$	$V_{CE(sus)}$	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 Vdc, I _C = 4.5 A, I _{B1} = 1.5 A, I _{B2} = 1.5 A)		—		μs
Storage Time		t_s	—	1.2	
Fall Time		t_f	—	1.0	

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2\%$