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8.0 AMPERE

NPN SILICON  
DARLINGTON  
POWER TRANSISTOR

1400 VOLTS  
80 WATTS

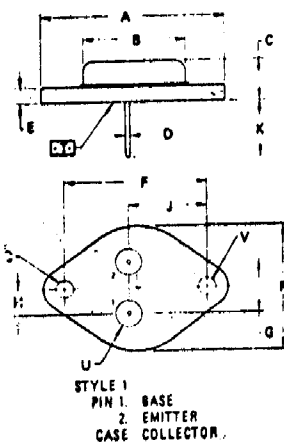
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEX}$	1400	Vdc
Emitter Base Voltage	$V_{EB}$	5.0	Vdc
Collector Current - Continuous	$I_C$	8.0	Adc
Peak (1)	$I_{CM}$	16	
Base Current - Continuous	$I_B$	2.0	Adc
Peak (1)	$I_{BM}$	4.0	
Emitter Current - Continuous	$I_E$	10	Adc
Peak (1)	$I_{EM}$	20	
Total Power Dissipation @ $T_C = 25^\circ C$	$P_D$	80	Watts
Derate above $25^\circ C$		0.6	W/ $^\circ C$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150	$^\circ C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.56	$^\circ C/W$
Maximum Lead Temperature for Soldering Purposes: 1.8" from Case for 5 Seconds	$T_L$	275	$^\circ C$

(1) Pulse Test: Pulse Width = 1.0 ms. Duty Cycle  $\leq 10\%$ .



- NOTES:
- DIMENSIONS Q AND V ARE DATUMS.
  - $\square$  IS SEATING PLANE AND DATUM.
  - POSITIONAL TOLERANCE FOR MOUNTING HOLE Q

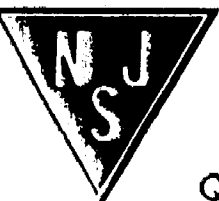
$\phi \pm 0.13 (0.005) \text{ } \ominus \text{ } T \text{ } V \text{ } \ominus$

FOR LEADS

$\phi \pm 0.13 (0.005) \text{ } \ominus \text{ } T \text{ } V \text{ } \ominus \text{ } \ominus$

- DIMENSIONS AND TOLERANCES PER ANSI Y14.5, 1973.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	39.37	-	1.550
B	-	21.08	-	0.830
C	6.35	7.62	0.250	0.300
D	0.87	1.09	0.038	0.043
E	1.40	1.78	0.055	0.070
F	30.15 BSC	1.187 BSC		
G	10.92 BSC	0.430 BSC		
H	8.48 BSC	0.334 BSC		
J	16.89 BSC	0.665 BSC		
K	11.18	12.19	0.440	0.480
O	3.81	4.19	0.150	0.165
R	-	28.87	-	1.136
U	4.83	5.33	0.190	0.210
V	3.81	4.19	0.150	0.165



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Quality Semi-Conductors

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^\circ$  unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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**OFF CHARACTERISTICS (1)**

Collector-Emitter Sustaining Voltage ( $I_C = 100 \text{ mAdc}$ , $I_B = 0$ )	$V_{CE(sus)}$	700	-	-	Vdc
Collector Cutoff Current ( $V_{CE} = 1400 \text{ Vdc}$ , $V_{BE} = 0$ )	$I_{CES}$	-	-	0.25	mAdc
Emitter Cutoff Current ( $V_{BE} = 4.0 \text{ Vdc}$ , $I_C = 0$ )	$I_{EBO}$	-	-	50	mAdc

**ON CHARACTERISTICS (1)**

Collector-Emitter Saturation Voltage ( $I_C = 3.5 \text{ Adc}$ , $I_B = 0.15 \text{ Adc}$ ) ( $I_C = 4.0 \text{ Adc}$ , $I_B = 0.2 \text{ Adc}$ )	$V_{CE(sat)}$	-	-	3.0 3.0	Vdc
Base-Emitter Saturation Voltage ( $I_C = 3.5 \text{ Adc}$ , $I_B = 0.15 \text{ Adc}$ ) ( $I_C = 4.0 \text{ Adc}$ , $I_B = 0.2 \text{ Adc}$ )	$V_{BE(sat)}$	-	-	2.0 2.0	Vdc
Forward Diode Voltage ( $I_F = 4.0 \text{ Adc}$ )	$V_f$	-	1.2	2.0	Vdc
Second Breakdown Collector Current with Base Forward Biased	$I_{S/b}$	See Figure 1			

**SWITCHING CHARACTERISTICS**

Fall Time (See Figure 2) ( $I_C = 4.0 \text{ Adc}$ , $I_{B1} = 0.2 \text{ Adc}$ )	$t_f$	-	0.65	1.0	$\mu\text{s}$
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(1) Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle = 2%.