

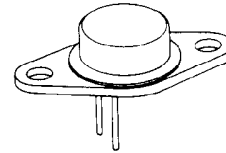


**NES**  
NEW ENGLAND SEMICONDUCTOR

**NSX16**

## EPIBASE PNP SILICON TRANSISTORS

- LF LARGE SIGNAL POWER AMPLIFICATION
- JUNCTION TO CASE -  $R_{th}$  --  $7^{\circ}C/W$



TO-66

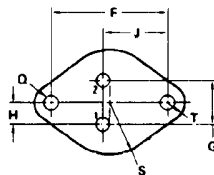
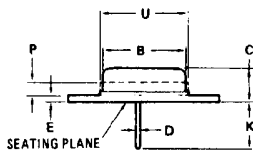
### MAXIMUM RATINGS

RATINGS	SYMBOL	LIMITS	UNITS
Collector-Emitter Voltage	$V_{CEO}$	-140	Vdc
Collector-Base Voltage	$V_{CBO}$	-160	Vdc
Emitter-Base Voltage	$V_{EBO}$	-7	Vdc
Collector Current -- Continuous	$I_C$	-3	Adc
-- Peak		-4	
Base Current -- Continuous	$I_B$	-2	Adc
Total Power Dissipation @ $T_c = 25^{\circ}C$	$P_D$	25	W
Operating & Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +200	$^{\circ}C$

### THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNITS
Junction-Case Thermal Resistance	$R_{th}$		7.0	$^{\circ}C/W$

### MECHANICAL OUTLINE



STYLE 1:  
PIN 1: BASE  
2: EMITTER  
CASE: COLLECTOR

DIM	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
B	11.94	12.70	0.470	0.500
C	6.35	8.64	0.250	0.340
D	0.71	0.86	0.028	0.034
E	1.27	1.91	0.050	0.075
F	24.33	24.43	0.958	0.962
G	4.83	5.33	0.190	0.210
H	2.41	2.67	0.095	0.105
J	14.48	14.99	0.570	0.590
K	9.14	-	0.360	-
P	-	1.27	-	0.050
Q	3.61	3.86	0.142	0.152
S	-	8.89	-	0.350
T	-	3.68	-	0.145
U	-	15.75	-	0.620

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T4-4.8-860-010 REV: --



# NES

**NEW ENGLAND SEMICONDUCTOR**

**NSX16**

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

Characteristics	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage (1) $I_C = -100 \text{ mAdc}, I_B = 0$	$V_{CEO}$	-140		Vdc
Collector-Emitter Breakdown Voltage (1) $I_C = -100 \text{ mAdc}, R_{BE} = 100 \Omega$	$V_{CER}$	-150		Vdc
Collector-Emitter Breakdown Voltage (1) $I_C = -100 \text{ mAdc}, V_{BE} = 1.5 \text{ Vdc}$	$V_{CEX}$	-160		
Collector Emitter Cutoff Current $V_{CE} = -140 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = -140 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}, T_C = 150^{\circ}\text{C}$	$I_{CEX}$		-1.0 -5.0	mAdc mAdc
Emitter Base Breakdown Voltage (1) $V_{BE} = -7.0 \text{ mAdc}, I_C = 0$	$I_{EBO}$		-1.0	Vdc
<b>ON CHARACTERISTICS</b>				
Static Forward Current Transfer Ratio $I_C = -0.5 \text{ Adc}, V_{CE} = -4.0 \text{ Vdc}$	$h_{FE}$	20	80	
Collector-Emitter Saturation Voltage $I_C = -0.5 \text{ Adc}, I_B = -0.05 \text{ Adc}$	$V_{CE(sat)}$		-1.0	Vdc
Base-Emitter Voltage $I_C = -0.5 \text{ Adc}, V_{CE} = -4.0 \text{ Vdc}$	$V_{BE}$		-1.7	Vdc
<b>DYNAMIC CHARACTERISTICS</b>				
Transistion Frequency $I_C = -0.2 \text{ Adc}, V_{CE} = -10 \text{ Vdc}, f = 1.0 \text{ MHz}$	$f_T$		4.0 typ.	MHz

(1)Pulse Test: Pulse Width = 300 $\mu\text{s}$ , Duty Cycle  $\leq$  2.0%.

**SX LEVEL RELIABILITY TESTING**

100% SCREENING	GROUP A	GROUP B (Sample)	GROUP C (Sample)
Internal Visual Temp Cycle Thermal Response Constant Acceleration PIND Fine and Gross Leak HTRB Power Burn In	Visual and Mechanical DC Static Tests 25°C DC Static Tests High Temp DC Static Tests Low Temp Dynamic Tests @ 25°C	Solderability Temp Cycle Fine and Gross Leak Bond Strength Intermittent Op Life Steady State Op Life Thermal Resistance Hi-Temp (non-operating)	Physical Dimensions Thermal Shock Terminal Strength Hermetic Seal Moisture Resistance Shock Test Vibration Test Constant Acceleration Salt Atmosphere Operation Life

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