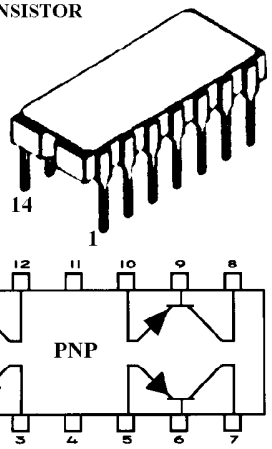
NEW ENGLAND SEMICONDUCTOR

NSQ6987-100

TO-116
PNP HERMETIC SILICON
QUAD TRANSISTOR



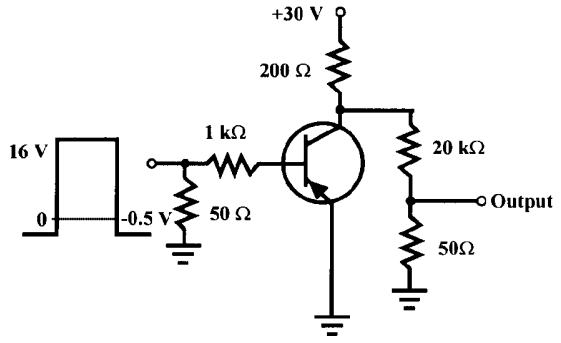
QUAD GENERAL PURPOSE DUAL-IN-LINE TRANSISTORS

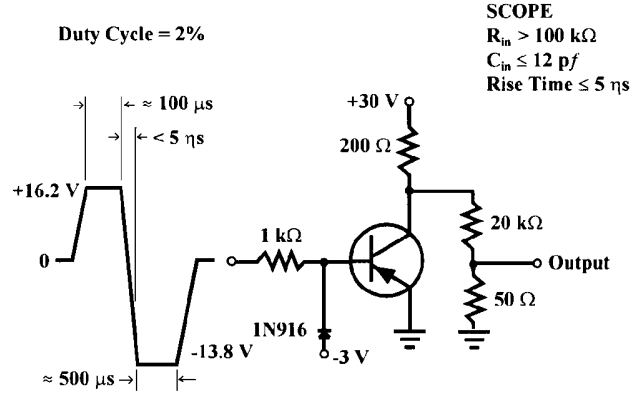
...designed for general-purpose switching circuits and DC to VHF amplifier applications.

- FOUR ISOLATED TRANSISTORS.
- DC CURRENT GAIN SPECIFIED
- LOW COLLECTOR-CUTOFF CURRENT
- HIGH COLLECTOR BREAKDOWN VOLTAGES

MAXIMUM RATINGS

RATINGS	SYMBOL	VALUE		UNITS
Collector-Emitter Voltage	V_{CEO}	100		Vdc
Collector-Base Voltage	V_{CBO}	120		Vdc
Emitter-Base Voltage	V_{EBO}	6.0		Vdc
Collector Current -- Continuous	I_C	800		mAdc
		Each Transistor	Total Device	
Total Power Dissipation @ $T_C = 25^0C$ Derate above 25^0C	P_D	0.525 3.0	1.5 8.57	W $mW/^0C$
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		^0C





NEW ENGLAND SEMICONDUCTOR
6 Lake Street Lawrence, MA 01841
1-800-446-1158 / (978) 794-1666 / FAX: (978) 689-0803

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ELECTRICAL CHARACTERISTICS ($T_C = 25^0C$ unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage I_C = 10 mAdc, I_B = 0	$V_{(BR)CEO}$	100		Vdc
Collector-Base Breakdown Voltage I_C = 10 μAdc, I_E = 0	$V_{(BR)CBO}$	120		Vdc
Emitter-Base Breakdown Voltage I_E = 10 μAdc, I_C = 0	$V_{(BR)EBO}$	6.0		Vdc
Collector Cutoff Current I_E = 0, V_{CB} = 100 Vdc I_E = 0, V_{CB} = 100 Vdc T_A = 150^0C	I_{CBO}		20 10	ηAdc μAdc
Emitter Cutoff Current I_B = 0, V_{CB} = 4.0 Vdc	I_{EBO}		10	ηAdc
ON CHARACTERISTICS (1)				
DC Current Gain I_C = 0.1 mAdc, V_{CE} = 10 Vdc I_C = 1.0 mAdc, V_{CE} = 10 Vdc I_C = 10 mAdc, V_{CE} = 10 Vdc I_C = 150 mAdc, V_{CE} = 10 dc I_C = 500 mAdc, V_{CE} = 10 Vdc I_C = 10 mAdc, V_{CE} = 10 Vdc, T_A = -55^0C	h_{FE}	50 60 75 75 30 25	250 200 250 	
Collector-Emitter Saturation Voltage I_C = 150 mAdc, I_B = 15 mAdc I_C = 500 mAdc, I_B = 50 mAdc	$V_{CE(sat)}$		0.4 1.6	Vdc
Base-Emitter Saturation Voltage I_C = 150mAdc I_B = 15 mAdc I_C = 500mAdc I_B = 50 mAdc	$V_{BE(sat)}$		1.4 2.6	Vdc
DYNAMIC CHARACTERISTICS				
Small-Signal Current Gain V_{CE} = 10 Vdc, I_C = 1.0 mAdc, f = 1.0 kHz	h_{fe}	50		
Magnitude of Small Signal Current Gain I_C = 20 mAdc, V_{CE} = 20 Vdc, f = 100 MHz	$\lvert h_{fe} \rvert$	2.0		
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, f = 100 kHz to 1.0 MHz	C_{obo}		12	pf
Input Capacitance V_{BE} = 0.5 Vdc, I_C = 0, f = 100 kHz to 1.0 MHz	C_{ibo}		75	pf
SWITCHING CHARACTERISTICS				
Turn-On Time V_{CC} = 30 Vdc, $V_{BE(off)}$ = 0.5 Vdc, I_C = 150 mAdc, I_{B1} = 15 mAdc	t_{on}		50	ηs
Turn-Off Time V_{CC} = 30 Vdc, I_C = 150 mAdc, I_{B1} = I_{B2} = 15 mAdc	t_{off}		500	ηs

(1)Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.

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