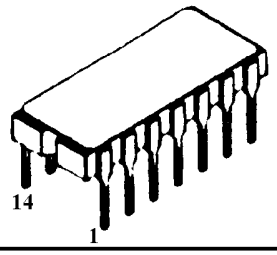
NEW ENGLAND SEMICONDUCTOR

NSQ3724
NSQ3725

QUAD DUAL - IN LINE NPN HERMETIC SILICON MEMORY DRIVER TRANSISTORS

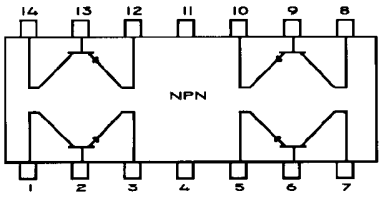
- FAST SWITCHING TIMES
- LOW COLLECTOR-EMMITTER SATURATION VOLTAGE
- DC CURRENT GAIN SPECIFIED -- 100 m Adc TO 1.0 Adc
- TO-116 CERAMIC PACKAGE

TO-116

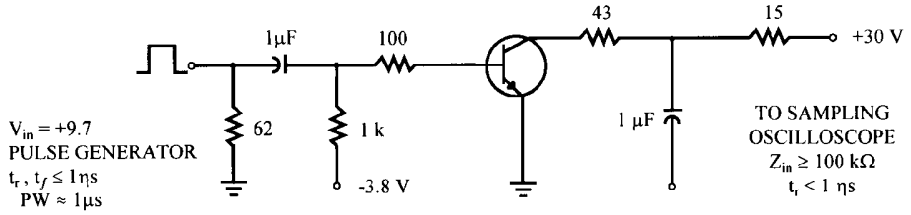


MAXIMUM RATINGS

RATINGS	SYMBOL	NSQ3724	NSQ3725	UNITS
Collector-Emitter Voltage	V_{CEO}	30	45	Vdc
Collector-Emitter Voltage	V_{CES}	50	70	Vdc
Collector-Base Voltage	V_{CBO}	50	70	Vdc
Emitter-Base Voltage	V_{EBO}	6.0		Vdc
Collector Current -- Continuous	I_C	1.5		Adc
		Each Transistor	Four Transistors Equal Power	
Total Power Dissipation @ $T_A = 25^0C$ Derate above 25^0C	P_D	750 4.3	2000 11.4	mW $mW/^0C$
Total Power Dissipation @ $T_C = 25^0C$ Derate above 25^0C	P_D	1.2 6.86	4.0 22.8	W $mW/^0C$
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200		^0C



Turn-On and Turn-Off Switching Times Test Circuit



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

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NSQ3724
NSQ3725

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

Characteristics		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (1) I_C = 10 mAdc, I_B = 0	NSQ2N3724 NSQ 2N3725	$V_{(BR)CEO}$	30 45		Vdc
Collector-Emitter Breakdown Voltage I_C = 10 μAdc, V_{BE} = 0	NSQ2N3724 NSQ 2N3725	$V_{(BR)CES}$	50 70		Vdc
Collector-Base Breakdown Voltage I_C = 10 μAdc, I_E = 0	NSQ 2N3724 NSQ 2N3725	$V_{(BR)CBO}$	50 70		Vdc
Emitter-Base Breakdown Voltage I_C = 0, I_E = 10 μAdc		$V_{(BR)EBO}$	6.0		Vdc
Collector Cutoff Current V_{CB} = 40 Vdc, I_E = 0 V_{CB} = 50 Vdc, I_E = 0	NSQ 2N3724 NSQ 2N3725	I_{CBO}		500	ηAdc
ON CHARACTERISTICS (1)					
DC Current Gain I_C = 100 mAdc, V_{CE} = 1.0 Vdc I_C = 500 mAdc, V_{CE} = 50 mAdc I_C = 1.0 Adc, V_{CE} = 5.0 Vdc	NSQ 2N3724 NSQ 2N3725	h_{FE}	60 25 35 25	250	
Collector-Emitter Saturation Voltage I_C = 100 mAdc, I_B = 10 mAdc I_C = 500 mAdc, I_B = 50 mAdc I_C = 1.0 Adc, I_B = 100 mAdc		$V_{CE(sat)}$		0.26 0.52 0.95	Vdc
Base-Emitter Saturation Voltage I_C = 100 mAdc, I_B = 10 mAdc I_C = 500 mAdc, I_B = 50 mAdc I_C = 1.0 Adc, I_B = 100 mAdc		$V_{BE(sat)}$	 0.8	0.86 1.1 1.7	Vdc
DYNAMIC CHARACTERISTICS					
Current-Gain -- Bandwidth Product I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 100 MHz		f_T	200		MHz
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, f = 100 kHz		C_{ob}		10	p^f
Input Capacitance V_{BE} = 0.5 Vdc, I_C = 0, f = 100 kHz		C_{ib}		70	p^f
SWITCHING CHARACTERISTICS					
Turn-On Time V_{CC} = 30 Vdc, I_C = 0.5 Adc, $V_{BE(off)}$ = 3.8 Vdc, I_{B1} = 50 mAdc		t_{on}		35	ηs
Turn-Off Time V_{CC} = 30 Vdc, I_C = 0.5 Adc, I_{B1} = -I_{B2} = 500 mA		t_{off}		60	ηs

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

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