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2N3722

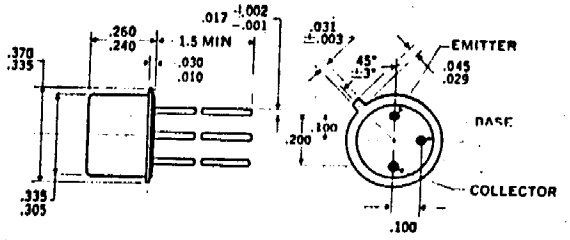
NPN SMALL SIGNAL HIGH VOLTAGE HIGH CURRENT SWITCHES

- V_{CEO} . . . 60 V (MIN) (2N3722)
- h_{FE} . . . 40 – 150 @ 100 mA
  . . . 12 (MIN) @ 800 mA
- t_{on} . . . 50 ns (MAX) @ 500 mA (2N3722)
- t_{off} . . . 100 ns (MAX) @ 500 mA (2N3722)

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures		
Storage Temperature		−65°C to +200°C
Operating Junction Temperature		200°C
Lead Temperature (60 seconds)		300°C
Maximum Power Dissipation		
Total Dissipation at 25°C Case Temperature		4.0 W
at 25°C Ambient Temperature		0.8 W
Maximum Voltages and Current		2N3722
V_{CBO}	Collector to Base Voltage	80 V
V_{CES}	Collector to Emitter Voltage	80 V
V_{CEO}	Collector to Emitter Voltage	60 V
V_{EBO}	Emitter to Base Voltage	6.0 V
I_C	Collector Current	1.0 A

MECHANICAL SPECIFICATIONS



Dimensions in inches.

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	2N3722 MIN.	2N3722 MAX.	UNITS	TEST CONDITIONS
$V_{CEO(sus)}$	Collector to Emitter Sustaining Voltage	60		V	I_C = 10 mA (pulsed), I_B = 0
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage		0.25	V	I_C = 10 mA, I_B = 1.0 mA
			0.22	V	I_C = 100 mA, I_B = 10 mA
			0.37	V	I_C = 300 mA, I_B = 30 mA
			0.50	V	I_C = 500 mA, I_B = 50 mA
			2.0	V	I_C = 800 mA, I_B = 80 mA
t_{on}	Turn On Time (see test circuit no. 265)		50	ns	I_C ≈ 500 mA, I_{B1} ≈ 50 mA
t_{off}	Turn Off Time (see test circuit no. 265)		100	ns	I_C ≈ 500 mA, I_{B1} ≈ I_{B2} ≈ 50 mA
C_{ob}	Output Capacitance		10	pF	I_E = 0, V_{CB} = 10 V
C_{ib}	Input Capacitance		65	pF	V_{EB} = 0.5 V, I_C = 0
h_{FE}	DC Current Gain	25			I_C = 10 mA, V_{CE} = 1.0 V
		40	150		I_C = 100 mA, V_{CE} = 1.0 V
		20			I_C = 300 mA, V_{CE} = 2.0 V
		15			I_C = 500 mA, V_{CE} = 2.0 V
		12			I_C = 800 mA, V_{CE} = 5.0 V
		15			I_C = 100 mA, V_{CE} = 1.0 V, T_A = −55°C
		20			I_C = 200 mA, V_{CE} = 2.0 V, T_A = −55°C
$V_{BE(sat)}$	Base to Emitter Saturation Voltage		0.75	V	I_C = 10 mA, I_B = 1.0 mA
			0.85	V	I_C = 100 mA, I_B = 10 mA
			1.1	V	I_C = 300 mA, I_B = 30 mA
		0.86	1.2	V	I_C = 500 mA, I_B = 50 mA
			1.8	V	I_C = 800 mA, I_B = 80 mA
h_{fe}	High Frequency Current Gain	3.0			I_C = 50 mA, V_{CE} = 10 V, f = 100 MHz
I_{CES}	Collector Reverse Current		500	nA	V_{CE} = 40 V, V_{EB} = 0
			70	μA	V_{CE} = 40 V, V_{EB} = 0, T_A = 125°C
BV_{CBO}	Collector to Base Breakdown Voltage	80		V	I_C = 100 μA, I_E = 0
BV_{CES}	Collector to Emitter Breakdown Voltage	80		V	I_C = 100 μA, V_{EB} = 0
BV_{EBO}	Emitter to Base Breakdown Voltage	6.0		V	I_E = 100 μA, I_C = 0