2N5771

CASE 29-02, STYLE 1
TO-92 (TO-226AA)

SWITCHING TRANSISTOR

PNP SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Base Voltage	V_{CBO}	15	Vdc
Emitter-Base Voltage	V_{EBO}	4.5	Vdc
Collector Current — Continuous	I_C	50	mA
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	0.625	Watts mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.0	Watt mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−55 to +150	°C
Lead Temperature	T_L	260	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I_C = 3.0 mA)(1)	$V_{(BR)CEO}$	15	—	Vdc
Collector-Emitter Breakdown Voltage (I_C = 100 μA)	$V_{(BR)CES}$	15	—	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μA)	$V_{(BR)CBO}$	15	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μA)	$V_{(BR)EBO}$	4.5	—	Vdc
Collector Cutoff Current (V_{CB} = 8.0 Vdc)	I_{CBO}	—	10	nA
Collector Cutoff Current (V_{CE} = 8.0 Vdc) (V_{CE} = 8.0 Vdc, T_A = 125°C)	I_{CES}	— —	10 5.0	nA μA
Emitter Cutoff Current (V_{BE} = 4.5 Vdc)	I_{EBO}	—	1.0	μA
ON CHARACTERISTICS				
DC Current Gain (I_C = 1.0 mA, V_{CE} = 0.5 Vdc)(1) (I_C = 10 mA, V_{CE} = 0.3 Vdc)(1) (I_C = 50 mA, V_{CE} = 1.0 Vdc)(1) (I_C = 10 mA, V_{CE} = 0.3 Vdc, T_A = −55°C)	h_{FE}	35 50 40 20	— 120 — —	—
Collector-Emitter Saturation Voltage(1) (I_C = 1.0 mA, I_B = 0.1 mA) (I_C = 10 mA, I_B = 1.0 mA) (I_C = 50 mA, I_B = 5.0 mA)	$V_{CE(sat)}$	— — —	0.15 0.18 0.6	Vdc
Base-Emitter Saturation Voltage(1) (I_C = 1.0 mA, I_B = 0.1 mA) (I_C = 10 mA, I_B = 1.0 mA) (I_C = 50 mA, I_B = 5.0 mA)	$V_{BE(sat)}$	— 0.75 —	0.8 0.95 1.5	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Collector-Base Capacitance (V_{CB} = 5.0 Vdc, f = 140 kHz)	C_{cb}	—	3.0	pF
Emitter-Base Capacitance (V_{BE} = 0.5 Vdc, f = 140 kHz)	C_{eb}	—	3.5	pF
Small-Signal Current Gain (I_C = 10 mA, V_{CE} = 10 Vdc, f = 100 MHz)	h_{fe}	8.5	—	—
SWITCHING CHARACTERISTICS				
Storage Time (I_C = 10 mA, $I_{B1} \approx I_{B2} \approx$ 10 mA)	t_s	—	20	ns
Turn-On Time (I_C = 10 mA, I_B = 1.0 mA)	t_{on}	—	15	ns
Turn-Off Time (I_C = 10 mA, I_{B1} = I_{B2} = 1.0 mA)	t_{off}	—	20	ns

(1) Pulse Conditions: Pulse Length = 300 μs, Duty Cycle = 1.0%.