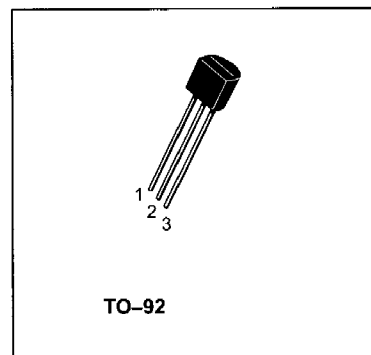
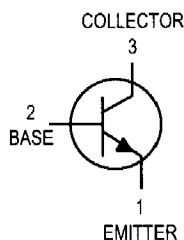


Amplifier Transistor

NPN Silicon

MPS6530



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	40	Vdc
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	600	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625	mW
Junction Temperature	T_J, T_{stg}	150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.2	$^\circ\text{C}/\text{mW}$

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 10 \text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	40	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 10 \mu\text{Adc}, I_E = 0$)	$V_{(BR)CBO}$	60	—	Vdc
Emitter-Base Breakdown Voltage ($I_B = 10 \mu\text{Adc}, I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 40 \text{ Vdc}, I_E = 0$) ($V_{CB} = 40 \text{ Vdc}, I_E = 0, T_A = 60^\circ\text{C}$)	I_{CBO}	—	0.05 2.0	μAdc



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

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

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain (I _C = 10 mA _{dc} , V _{CE} = 1.0 V _{dc}) (I _C = 100 mA _{dc} , V _{CE} = 1.0 V _{dc}) (I _C = 500 mA _{dc} , V _{CE} = 10 V _{dc})	h _{FE}	30 40 25	— 120 —	—
Collector–Emitter Saturation Voltage (I _C = 100 mA _{dc} , I _B = 10 mA _{dc})	V _{CE(sat)}	—	0.5	V _{dc}
Base–Emitter Saturation Voltage (I _C = 100 mA _{dc} , I _B = 10 mA _{dc})	V _{BE(sat)}	—	1.0	V _{dc}
SMALL–SIGNAL CHARACTERISTICS				
Output Capacitance (V _{CB} = 10 V _{dc} , I _E = 0, f = 1.0 MHz)	C _{obo}	—	5.0	pF

SWITCHING TIME EQUIVALENT TEST CIRCUITS

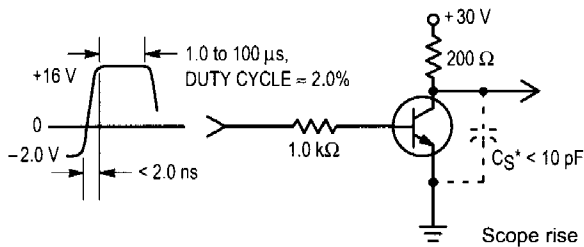


Figure 1. Turn–On Time

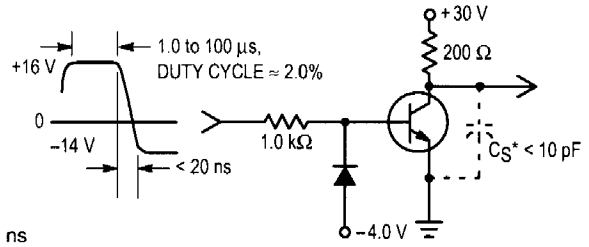


Figure 2. Turn–Off Time

Scope rise time < 4.0 ns

*Total shunt capacitance of test jig connectors, and oscilloscope