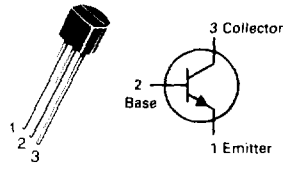
MPS6530
MPS6531

CASE 29-04, STYLE 1
TO-92 (TO-226AA)



AMPLIFIER TRANSISTORS

NPN SILICON

Refer to 2N4400 for graphs.

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°C Derate above 25°C	P_D	625	mW
Junction Temperature	T_J, T_{stg}	150	°C

THERMAL CHARACTERISTICS

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

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 10 mAdc, I_B = 0)		$V_{(BR)CEO}$	40	—	Vdc
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)		$V_{(BR)CBO}$	60	—	Vdc
Emitter-Base Breakdown Voltage (I_B = 10 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CB} = 40 Vdc, I_E = 0) (V_{CB} = 40 Vdc, I_E = 0, T_A = 60°C)		I_{CBO}	— —	0.05 2.0	μAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 10 mAdc, V_{CE} = 1.0 Vdc)	MPS6530 MPS6531	h_{FE}	30 60	— —	—
(I_C = 100 mAdc, V_{CE} = 1.0 Vdc)	MPS6530 MPS6531		40 90	120 270	
(I_C = 500 mAdc, V_{CE} = 10 Vdc)	MPS6530 MPS6531		25 50	— —	
Collector-Emitter Saturation Voltage (I_C = 100 mAdc, I_B = 10 mAdc)	MPS6530 MPS6531	$V_{CE(sat)}$	— —	0.5 0.3	Vdc
Base-Emitter Saturation Voltage (I_C = 100 mAdc, I_B = 10 mAdc)		$V_{BE(sat)}$	—	1.0	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)		C_{obo}	—	5.0	pF