MAXIMUM RATINGS

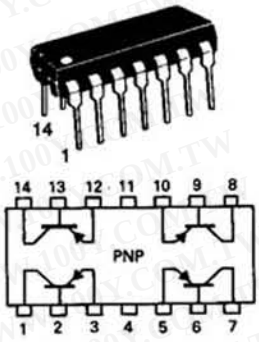
Rating	Symbol	Value		Unit
Collector-Emitter Voltage	V_{CEO}	−40		Vdc
Collector-Base Voltage	V_{CBO}	−40		Vdc
Emitter-Base Voltage	V_{EBO}	−5.0		Vdc
Collector Current — Continuous	I_C	−200		mAdc
		Each Transistor	Four Transistors Equal Power	
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	500 4.0	900 7.2	mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	825 6.7	2.4 19.2	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−55 to +150		°C

THERMAL CHARACTERISTICS

Characteristic		Junction to Case	Junction to Ambient	Unit
Thermal Resistance	Each Die	151	250	°C/W
	Effective, 4 Die	52	139	°C/W
Coupling Factors	Q1-Q4 or Q2-Q3	34	70	%
	Q1-Q2 or Q3-Q4	2.0	26	%

MPQ3906

TO-116



QUAD AMPLIFIER SWITCHING TRANSISTOR

PNP SILICON

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage(1) (I_C = −1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	−40	—	—	Vdc
Collector-Base Breakdown Voltage (I_C = −10 μAdc, I_E = 0)	$V_{(BR)CBO}$	−40	—	—	Vdc
Emitter-Base Breakdown Voltage (I_E = −10 μAdc, I_C = 0)	$V_{(BR)EBO}$	−5.0	—	—	Vdc
Collector Cutoff Current (V_{CB} = −30 Vdc, I_E = 0)	I_{CBO}	—	—	−50	nAdc
Emitter Cutoff Current (V_{EB} = −4.0 Vdc, I_C = 0)	I_{EBO}	—	—	−50	nAdc
ON CHARACTERISTICS(1)					
DC Current Gain (I_C = −0.1 mAdc, V_{CE} = −1.0 Vdc) (I_C = −1.0 mAdc, V_{CE} = −1.0 Vdc) (I_C = −10 mAdc, V_{CE} = −1.0 Vdc)	h_{FE}	 40 60 75	 160 180 200	 — — —	—
Collector-Emitter Saturation Voltage (I_C = −10 mAdc, I_B = −1.0 mAdc)	$V_{CE(sat)}$	—	−0.1	−0.25	Vdc
Base-Emitter Saturation Voltage (I_C = −10 mAdc, I_B = −1.0 mAdc)	$V_{BE(sat)}$	—	−0.65	−0.85	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product (I_C = −10 mAdc, V_{CE} = −20 Vdc, f = 100 MHz)	f_T	200	250	—	MHz
Output Capacitance (V_{CB} = −5.0 Vdc, I_E = 0, f = 1.0 MHz)	C_{obo}	—	3.3	4.5	pF
Input Capacitance (V_{EB} = −0.5 Vdc, I_C = 0, f = 1.0 MHz)	C_{ibo}	—	4.8	10	pF
SWITCHING CHARACTERISTICS					
Turn-On Time (I_C = −10 mAdc, $V_{BE(off)}$ = 0.5 Vdc, I_{B1} = −1.0 mAdc)	t_{on}	—	43	—	ns
Turn-Off Time (I_C = −10 mAdc, I_{B1} = I_{B2} = −1.0 mAdc)	t_{off}	—	155	—	ns

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