

MAXIMUM RATINGS

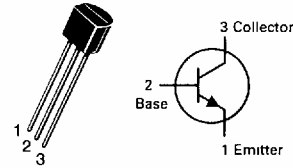
Rating	Symbol	MPS-A16	MPS-A17	Unit
Collector-Emitter Voltage	V _{CEO}	40		Vdc
Emitter-Base Voltage	V _{EBO}	12	15	Vdc
Collector Current — Continuous	I _C	100		mAdc
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	350	2.8	mW mW/°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	1.0	8.0	Watt mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	357	°C/W
Thermal Resistance, Junction to Case	R _{θJC}	125	°C/W

**MPSA16
MPSA17★**

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



CHOPPER TRANSISTORS

NPN SILICON

**★This is a Motorola
designated preferred device.**

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I _C = 1.0 mAdc, I _B = 0)	V _{(BR)CEO}	40	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 0.1 mAdc, I _C = 0)	V _{(BR)EBO}	12 15	—	Vdc
Collector Cutoff Current (V _{CB} = 30 Vdc, I _E = 0)	I _{CBO}	—	100	nAdc
Emitter Cutoff Current (V _{EB} = 10 Vdc, I _C = 0)	I _{EBO}	—	100	nAdc
ON CHARACTERISTICS				
DC Current Gain (I _C = 5.0 mAdc, V _{CE} = 10 Vdc)	h _{FE}	200	600	—
Collector-Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc)	V _{CE(sat)}	—	0.25	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product (I _C = 5.0 mAdc, V _{CE} = 10 Vdc, f = 100 MHz)	f _T	100 80	—	MHz
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	C _{obo}	—	4.0	pF

MPSA16 MPSA17

FIGURE 1 – DC CURRENT GAIN

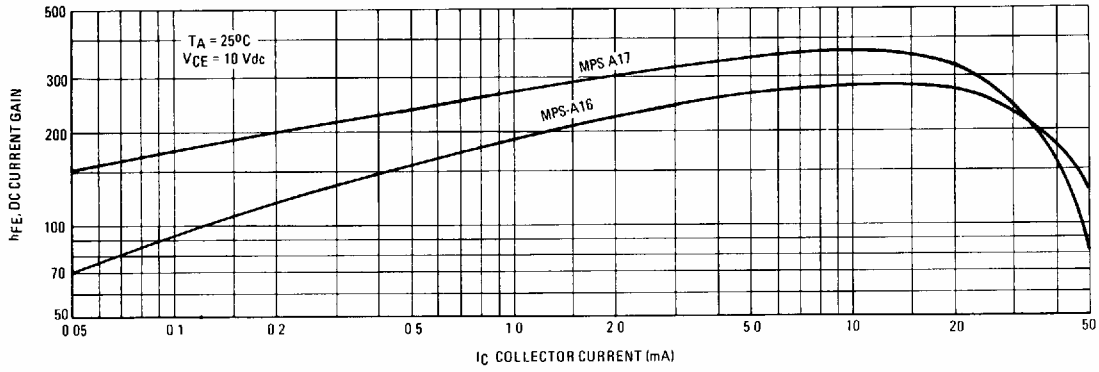


FIGURE 2 – SMALL SIGNAL CURRENT GAIN

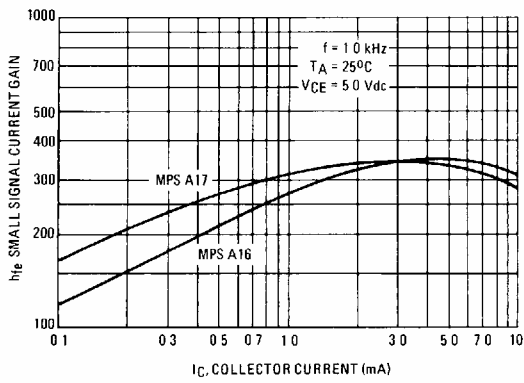


FIGURE 3 – SATURATION AND ON VOLTAGES

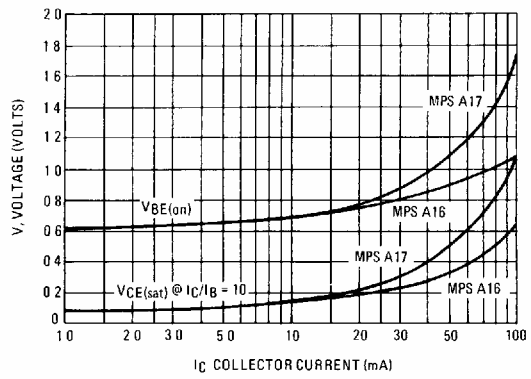


FIGURE 4 – CURRENT-GAIN-BANDWIDTH PRODUCT

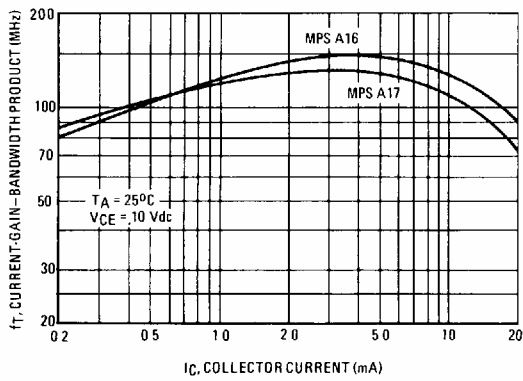


FIGURE 5 – OUTPUT CAPACITANCE

