MPS3702
MPS3703

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

AMPLIFIER TRANSISTOR

PNP SILICON

MAXIMUM RATINGS

Rating	Symbol	MPS3702	MPS3703	Unit
Collector-Emitter Voltage	V_{CEO}	25	30	Vdc
Collector-Base Voltage	V_{CBO}	40	50	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 5.0		mW 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	$R_{\theta JA}$	200	°C/W

Refer to 2N4402 for graphs.

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage(1) (I_C = 10 mAdc, I_B = 0)	MPS3702 MPS3703	$V_{(BR)CEO}$	 25 30	 — —	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	MPS3702 MPS3703	$V_{(BR)CBO}$	 40 50	 — —	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CB} = 20 Vdc, I_E = 0)		I_{CBO}	—	100	nAdc
Emitter Cutoff Current (V_{BE} = 3.0 Vdc, I_C = 0)		I_{EBO}	—	100	nAdc
ON CHARACTERISTICS					
DC Current Gain(1) (I_C = 50 mAdc, V_{CE} = 5.0 Vdc)	MPS3702 MPS3703	h_{FE}	 60 30	 300 150	—
Collector-Emitter Saturation Voltage(1) (I_C = 50 mAdc, I_B = 5.0 mAdc)		$V_{CE(sat)}$	—	0.25	Vdc
Base-Emitter On Voltage(1) (I_C = 50 mAdc, V_{CE} = 5.0 Vdc)		$V_{BE(on)}$	0.6	1.0	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product (I_C = 50 mAdc, V_{CE} = 5.0 Vdc, f = 20 MHz)		f_T	100	—	MHz
Output Capacitance (V_{CB} = 10 Vdc, f = 1.0 MHz)		C_{obo}	—	12	pF

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