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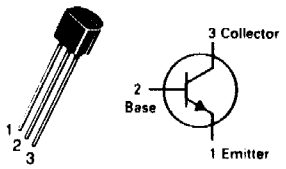
MPS3567
MPS3568
MPS3569

TO-92 (TO-226AA)



AMPLIFIER TRANSISTOR

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	MPS3567 MPS3569	MPS3568	Unit
Collector-Emitter Voltage	V_{CEO}	40	60	Vdc
Collector-Base Voltage	V_{CBO}	80		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		mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.5 12		Watts 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 Case	$R_{\theta JC}$	83.3	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	°C/W

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage(1) (I_C = 30 mAdc, I_B = 0)	MPS3567, MPS3569 MPS3568	$V_{CEO(sus)}$	40 60	— —	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)		$V_{(BR)CBO}$	80	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 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 = 75°C)		I_{CBO}	— —	50 5.0	nAdc μAdc
Emitter Cutoff Current (V_{EB} = 4.0 Vdc, I_C = 0)		I_{EBO}	—	25	nAdc
ON CHARACTERISTICS(1)					
DC Current Gain (I_C = 30 mAdc, V_{CE} = 1.0 Vdc) (I_C = 150 mAdc, V_{CE} = 1.0 Vdc)	MPS3567, MPS3568 MPS3569 MPS3567, MPS3568 MPS3569	h_{FE}	40 100 40 100	— — 120 300	—
Collector-Emitter Saturation Voltage (I_C = 150 mAdc, I_B = 15 mAdc)		$V_{CE(sat)}$	—	0.25	Vdc
Base-Emitter Saturation Voltage (I_C = 150 mAdc, I_B = 15 mAdc)		$V_{BE(sat)}$	—	1.1	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product(1) (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)		f_T	60	—	MHz
Output Capacitance (V_{CB} = 10 V, f = 1.0 MHz)		C_{obo}	—	20	pF
Input Capacitance (V_{EB} = 0.5 Vdc, I_C = 0, f = 1.0 MHz)		C_{ibo}	—	80	pF