

New Jersey Semi-Conductor Products, Inc.

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MAXIMUM RATINGS

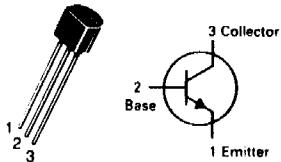
Rating	Symbol	MPS3567	MPS3568	Unit
Collector-Emitter Voltage	VCEO	40	60	Vdc
Collector-Base Voltage	VCBO	80		Vdc
Emitter-Base Voltage	VEBO	5.0		Vdc
Collector Current — Continuous	IC	600		mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	PD	825	5	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	PD	1.5	12	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	TJ, Tstg	-55 to +150		$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	83.3	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	R _{θJA}	200	$^\circ\text{C/W}$

MPS3567 MPS3568 MPS3569

TO-92 (TO-226AA)



AMPLIFIER TRANSISTOR

NPN SILICON

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage(1) ($I_C = 30 \text{ mA}_\text{dc}$, $I_B = 0$)	V _{CES(sus)}	40	—	Vdc
($I_C = 30 \text{ mA}_\text{dc}$, $I_B = 0$)		60	—	
Collector-Base Breakdown Voltage ($I_C = 100 \mu\text{A}_\text{dc}$, $I_B = 0$)	V _{(BR)CBO}	80	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{A}_\text{dc}$, $I_C = 0$)	V _{(BR)EBO}	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 40 \text{ Vdc}$, $I_E = 0$) ($V_{CB} = 40 \text{ Vdc}$, $I_E = 0$, $T_A = 75^\circ\text{C}$)	I _{CBO}	—	50	nAdc μAdc
($V_{CB} = 40 \text{ Vdc}$, $I_E = 0$, $T_A = 75^\circ\text{C}$)		—	5.0	
Emitter Cutoff Current ($V_{EB} = 4.0 \text{ Vdc}$, $I_C = 0$)	I _{EBO}	—	25	nAdc
ON CHARACTERISTICS(1)				
DC Current Gain ($I_C = 30 \text{ mA}_\text{dc}$, $V_{CE} = 1.0 \text{ Vdc}$)	h _{FE}	40	—	—
($I_C = 150 \text{ mA}_\text{dc}$, $V_{CE} = 1.0 \text{ Vdc}$)		100	—	
MPS3567, MPS3568 MPS3569				
Collector-Emitter Saturation Voltage ($I_C = 150 \text{ mA}_\text{dc}$, $I_B = 15 \text{ mA}_\text{dc}$)	V _{CE(sat)}	—	0.25	Vdc
Base-Emitter Saturation Voltage ($I_C = 150 \text{ mA}_\text{dc}$, $I_B = 15 \text{ mA}_\text{dc}$)	V _{BE(sat)}	—	1.1	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product(1) ($I_C = 50 \text{ mA}_\text{dc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 20 \text{ MHz}$)	f _T	60	—	MHz
Output Capacitance ($V_{CB} = 10 \text{ V}$, $f = 1.0 \text{ MHz}$)	C _{obo}	—	20	pF
Input Capacitance ($V_{EB} = 0.5 \text{ Vdc}$, $I_C = 0$, $f = 1.0 \text{ MHz}$)	C _{iob}	—	80	pF

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