

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector-Emitter Voltage MPS6533, MPS6534 MPS6535	$V_{CEO}$	40 30	Vdc
Collector-Base Voltage MPS6533, MPS6534 MPS6535	$V_{CBO}$	40 30	Vdc
Emitter-Base Voltage	$V_{EBO}$	4.0	Vdc
Collector Current — Continuous	$I_C$	600	mA dc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	625	mW
Junction Temperature	$T_J, T_{stg}$	150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.2	$^\circ\text{C}/\text{mW}$

# MPS6533 thru MPS6535

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

AMPLIFIER TRANSISTOR

PNP SILICON

Refer to 2N4402 for graphs.

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

Characteristic	Symbol	Min	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Breakdown Voltage ( $I_C = 10\text{ mA dc}, I_B = 0$ )	MPS6533, MPS6534 MPS6535	$V_{(BR)CEO}$	40 30	— —	Vdc
Collector-Base Breakdown Voltage ( $I_C = 10\text{ }\mu\text{A dc}, I_E = 0$ )	MPS6533, MPS6534 MPS6535	$V_{(BR)CBO}$	40 30	— —	Vdc
Emitter-Base Breakdown Voltage ( $I_B = 10\text{ }\mu\text{A dc}, I_C = 0$ ) ( $I_B = 10\text{ }\mu\text{A dc}, I_C = 0$ )	All Types All Types	$V_{(BR)EBO}$	5.0 4.0	— —	Vdc
Collector Cutoff Current ( $V_{CB} = 30\text{ Vdc}, I_E = 0$ )	All Types	$I_{CBO}$	—	0.05	$\mu\text{A dc}$
( $V_{CB} = 30\text{ Vdc}, I_E = 0, T_A = 60^\circ\text{C}$ )	MPS6533, MPS6534		—	2.0	
( $V_{CB} = 20\text{ Vdc}, I_E = 0, T_A = 60^\circ\text{C}$ )	MPS6535		—	5.0	

**ON CHARACTERISTICS**

DC Current Gain ( $I_C = 10\text{ mA dc}, V_{CE} = 1.0\text{ Vdc}$ )	MPS6533 MPS6534	$h_{FE}$	30 60	— —	—
( $I_C = 100\text{ mA dc}, V_{CE} = 1.0\text{ Vdc}$ )	MPS6533 MPS6534 MPS6535		40 90 30	120 270 —	
( $I_C = 500\text{ mA dc}, V_{CE} = 10\text{ Vdc}$ )	MPS6533 MPS6534		25 50	— —	
Collector-Emitter Saturation Voltage ( $I_C = 100\text{ mA dc}, I_B = 10\text{ mA dc}$ )	MPS6533, MPS6535 MPS6534	$V_{CE(sat)}$	— —	0.5 0.3	Vdc
Base-Emitter Saturation Voltage ( $I_C = 100\text{ mA dc}, I_B = 10\text{ mA dc}$ )	MPS6533, MPS6534 MPS6535	$V_{BE(sat)}$	— —	1.0 1.2	Vdc

**SMALL-SIGNAL CHARACTERISTICS**

Output Capacitance ( $V_{CB} = 10\text{ Vdc}, I_E = 0, f = 1.0\text{ MHz}$ ) ( $V_{CB} = 10\text{ Vdc}, I_E = 0, f = 1.0\text{ MHz}$ )	All Types All Types	$C_{obo}$	— —	5.0 7.0	pF
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