

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	300	Vdc
Collector-Base Voltage	V_{CBO}	300	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	500	mA _{dc}
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	Watt mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	2.5 20	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	50	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	125	$^\circ\text{C/W}$

MPSW60

**CASE 29-03, STYLE 1
TO-92 (TO-226AE)**

**HIGH VOLTAGE
TRANSISTOR**

PNP SILICON

Refer to MPSW92 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(1) ($I_C = 1.0 \text{ mA}_{dc}, I_B = 0$)	$V_{(BR)CEO}$	300	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 100 \mu\text{A}_{dc}, I_E = 0$)	$V_{(BR)CBO}$	300	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10.0 \mu\text{A}_{dc}, I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 200 \text{ Vdc}, I_E = 0$)	I_{CBO}	—	0.2	μA_{dc}
Emitter Cutoff Current ($V_{BE} = 3.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	0.1	μA_{dc}

ON CHARACTERISTICS(1)

DC Current Gain ($I_C = 1.0 \text{ mA}_{dc}, V_{CE} = 10 \text{ Vdc}$) ($I_C = 10 \text{ mA}_{dc}, V_{CE} = 10 \text{ Vdc}$) ($I_C = 30 \text{ mA}_{dc}, V_{CE} = 10 \text{ Vdc}$)	h_{FE}	25 30 25	— — —	—
Collector-Emitter Saturation Voltage ($I_C = 20 \text{ mA}_{dc}, I_B = 2.0 \text{ mA}_{dc}$)	$V_{CE(sat)}$	—	0.75	Vdc
Base-Emitter On Voltage ($I_C = 20 \text{ mA}_{dc}, V_{CE} = 10 \text{ Vdc}$)	$V_{BE(on)}$	—	0.9	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product ($I_C = 10 \text{ mA}_{dc}, V_{CE} = 20 \text{ Vdc}, f = 20 \text{ MHz}$)	f_T	60	—	MHz
Collector-Base Capacitance ($V_{CB} = 20 \text{ Vdc}, I_E = 0, f = 10 \text{ MHz}$)	C_{cb}	—	8.0	pF

(1) Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.