

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
 Http://www.100y.com.tw

MPSW05, MPSW06

MPSW06 is a Preferred Device

One Watt Amplifier Transistors

NPN Silicon



ON Semiconductor®

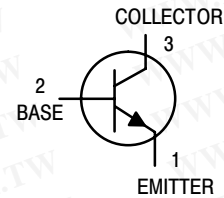
<http://onsemi.com>

Features

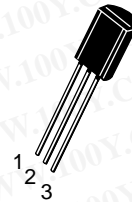
- Pb-Free Packages are Available*

MAXIMUM RATINGS

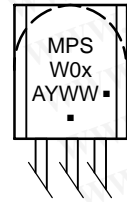
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	MPSW05 MPSW06 V_{CEO}	60 80	Vdc
Collector-Base Voltage	MPSW05 MPSW06 V_{CBO}	60 80	Vdc
Emitter-Base Voltage	V_{EBO}	4.0	Vdc
Collector Current - Continuous	I_C	500	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	W mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	2.5 20	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$



MARKING DIAGRAM



TO-92 (TO-226)
 CASE 29-10
 STYLE 1



MPSW0x = Device Code
 x = 5 or 6

A = Assembly Location
 Y = Year

WW = Work Week

▪ = Pb-Free Package

(Note: Microdot may be in either location)

THERMAL CHARACTERISTICS

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

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ORDERING INFORMATION

Device	Package	Shipping†
MPSW05	TO-92	5,000 Units/Box
MPSW05G	TO-92 (Pb-Free)	5,000 Units/Box
MPSW06	TO-92	5,000 Units/Box
MPSW06G	TO-92 (Pb-Free)	5,000 Units/Box
MPSW06RLRA	TO-92	2,000/Tape & Reel
MPSW06RLRAG	TO-92 (Pb-Free)	2,000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

MPSW05, MPSW06

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

Characteristic	Symbol	Min	Max	Unit	
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (Note 1) (I _C = 1.0 mA, I _B = 0)	MPSW05 MPSW06	V _{(BR)CEO}	60 80	– –	Vdc
Emitter–Base Breakdown Voltage (I _E = 100 μA, I _C = 0)		V _{(BR)EBO}	4.0	–	Vdc
Collector Cutoff Current (V _{CE} = 40 Vdc, I _B = 0) (V _{CE} = 60 Vdc, I _B = 0)	MPSW05 MPSW06	I _{CES}	– –	0.5 0.5	μA
Collector Cutoff Current (V _{CB} = 40 Vdc, I _E = 0) (V _{CB} = 60 Vdc, I _E = 0)	MPSW05 MPSW06	I _{CBO}	– –	0.1 0.1	μA
Emitter Cutoff Current (V _{EB} = 3.0 Vdc, I _C = 0)		I _{EBO}	–	0.1	μA
ON CHARACTERISTICS (Note 1)					
DC Current Gain (I _C = 50 mA, V _{CE} = 1.0 Vdc) (I _C = 250 mA, V _{CE} = 1.0 Vdc)		h _{FE}	80 60	– –	–
Collector–Emitter Saturation Voltage (I _C = 250 mA, I _B = 10 mA)		V _{CE(sat)}	–	0.4	Vdc
Base–Emitter Saturation Voltage (I _C = 250 mA, V _{CE} = 5.0 Vdc)		V _{BE(sat)}	–	1.2	Vdc
SMALL–SIGNAL CHARACTERISTICS					
Current–Gain–Bandwidth Product (I _C = 200 mA, V _{CE} = 5.0 Vdc, f = 20 MHz)		f _T	50	–	MHz
Output Capacitance (V _{CB} = 10 V, f = 1.0 MHz)		C _{obo}	–	12	pF

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1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

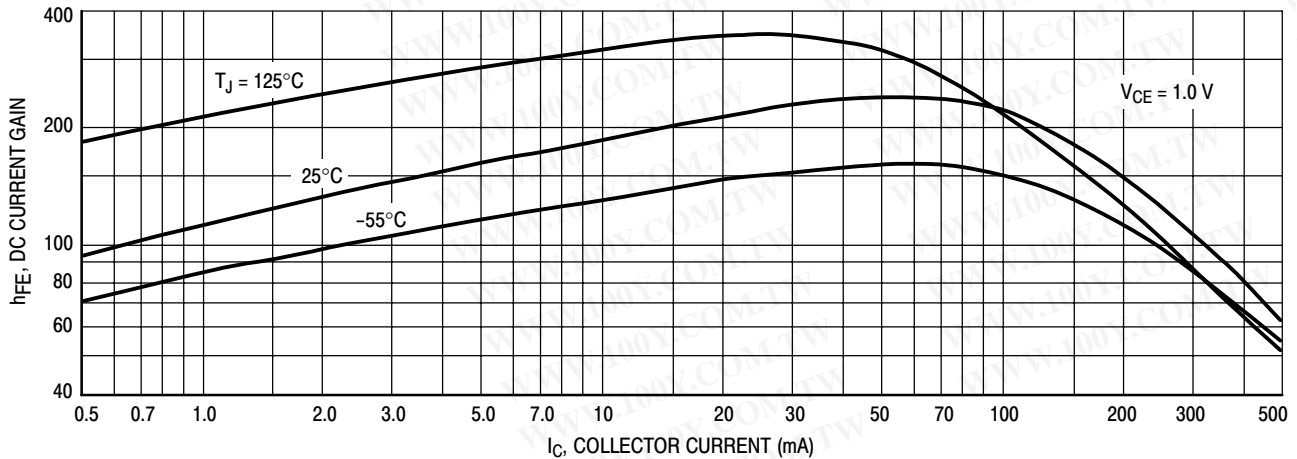


Figure 1. DC Current Gain

MPSW05, MPSW06

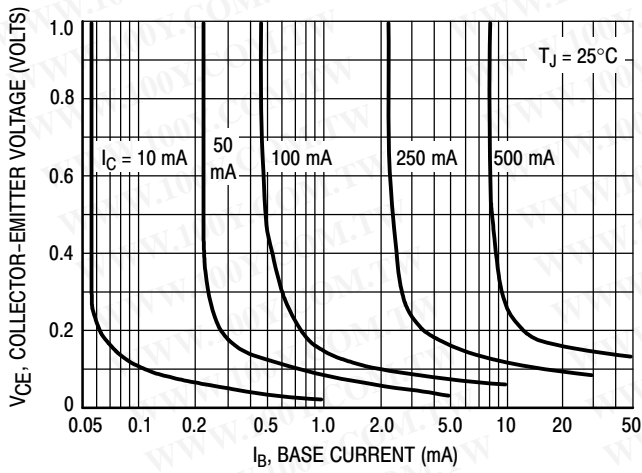


Figure 2. Collector Saturation Region

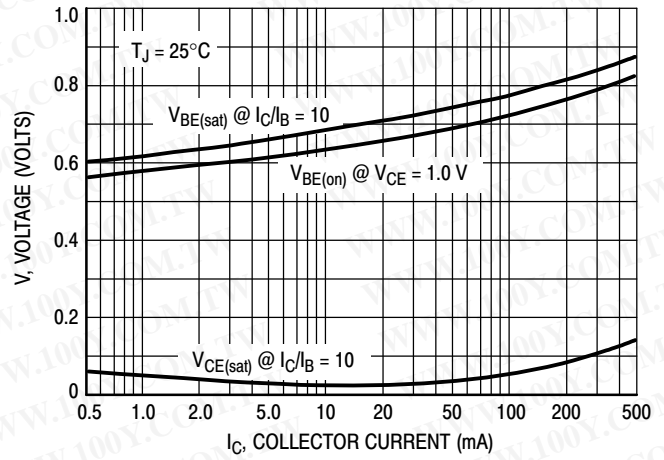


Figure 3. "On" Voltages

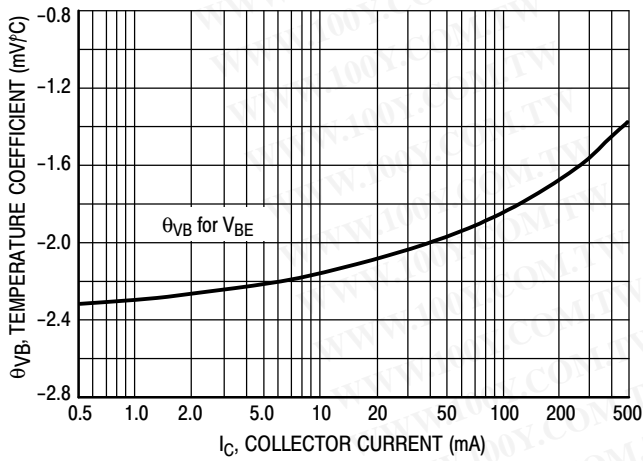


Figure 4. Base-Emitter Temperature Coefficient

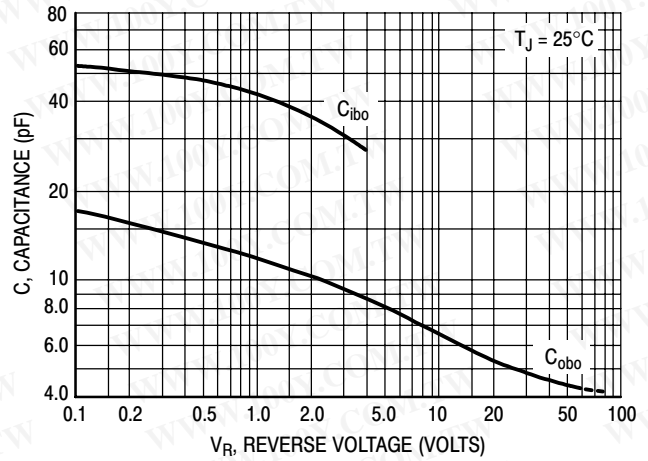


Figure 5. Capacitance

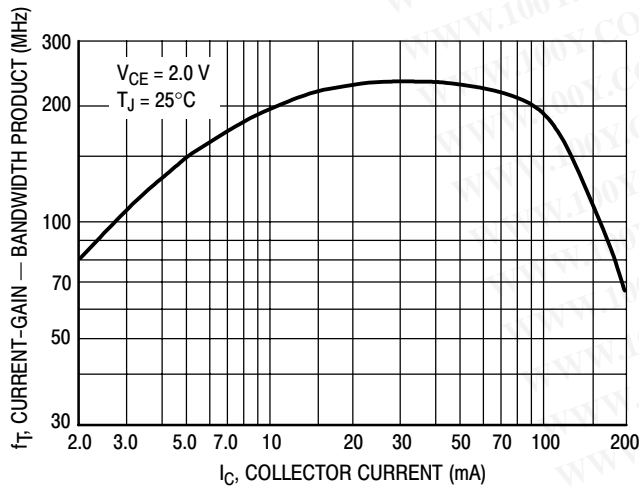


Figure 6. Current-Gain - Bandwidth Product

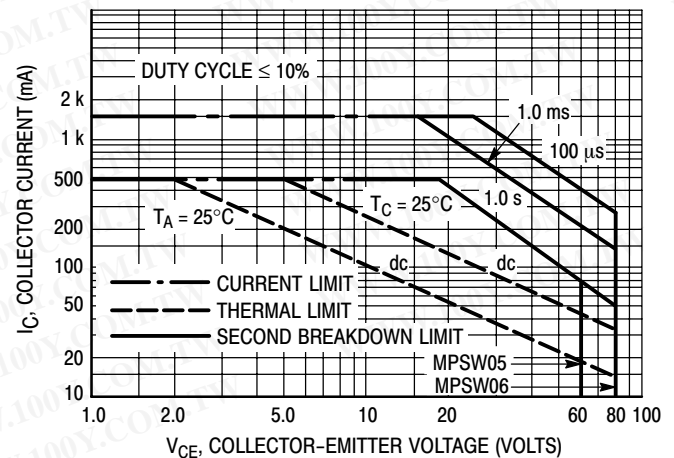


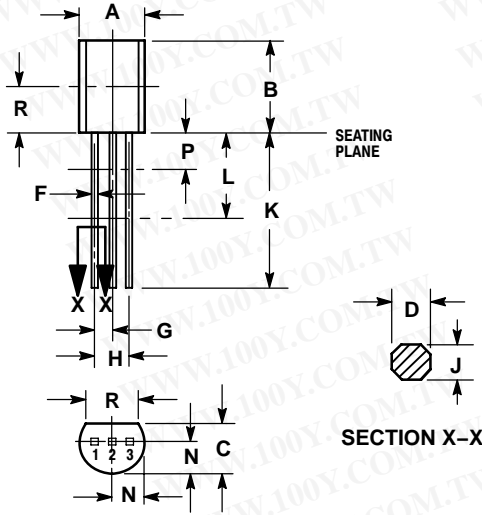
Figure 7. Active Region - Safe Operating Area

MPSW05, MPSW06

PACKAGE DIMENSIONS

TO-92 (TO-226)
CASE 29-10
ISSUE AL

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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. DIMENSION F APPLIES BETWEEN P AND L. DIMENSIONS D AND J APPLY BETWEEN L AND K MINIMUM. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.44	5.21
B	0.290	0.310	7.37	7.87
C	0.125	0.165	3.18	4.19
D	0.018	0.021	0.457	0.533
F	0.016	0.019	0.407	0.482
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.018	0.024	0.46	0.61
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.135	---	3.43	---

STYLE 1:

- PIN 1. EMITTER
2. BASE
3. COLLECTOR

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