

APPLICATIONS

- ✓ Computer Notebooks
- ✓ Communication Systems & Cellular Phones
- ✓ Printers
- ✓ Personal Digital Assistant(PDA)
- ✓ Video Equipment

IEC COMPATIBILITY (EN61000-4)

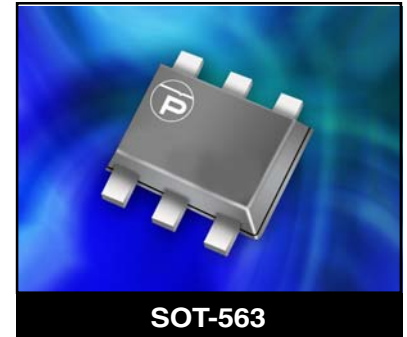
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

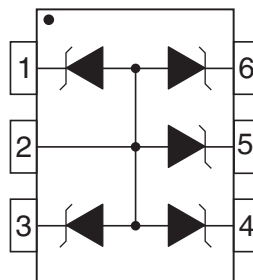
- ✓ 100 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ✓ Monolithic Structure
- ✓ Available in 4 Voltage Types: 5V to 24V
- ✓ Low Clamping Voltage
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Leakage Current
- ✓ Protects Four (4) Bidirectional Lines and Five (5) Unidirectional Lines
- ✓ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-563 Package
- ✓ Weight 3 milligrams (Approximate)
- ✓ Available in Lead-Free Nickel-Paladium-Gold Plating
- ✓ Solder Reflow Temperature:
 Nickel-Paladium-Gold (Ni/Pd/Au) Sn/Ag/Cu: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Marking Code & Pin One Defined By Dot on Top of Package



PIN CONFIGURATION



MSMF05C thru MSMF24C

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

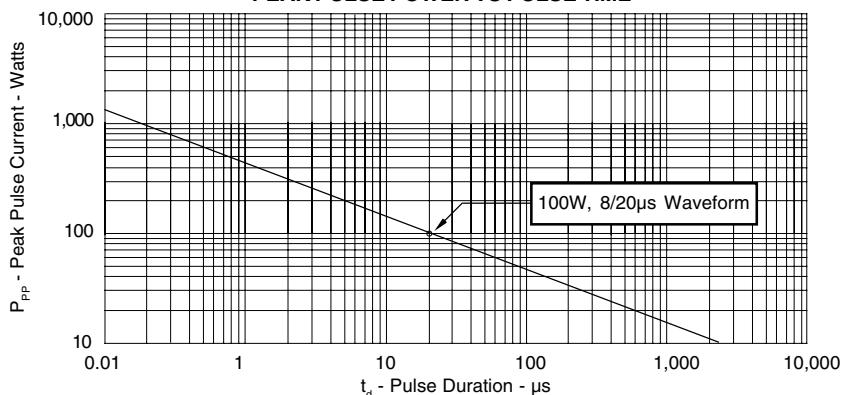
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	100	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Maximum Forward Voltage @ 10mA	V_F	1.0	V

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

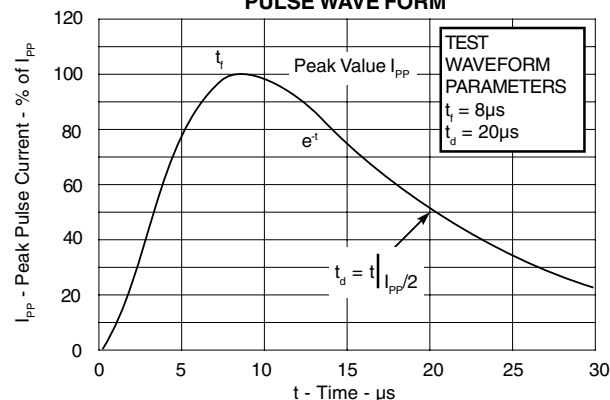
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_b μA	TYPICAL CAPACITANCE (See Note 1) 0V @ 1 MHz C pF
MSMF05C	B	5.0	6.0	12.0V @ 9.0A	1	40
MSMF12C	D	12.0	13.3	23.8V @ 4.2A	1	20
MSMF15C	F	15.0	16.7	33.3V @ 3.0A	1	15
MSMF24C	H	24.0	26.7	55.5V @ 1.8A	1	10

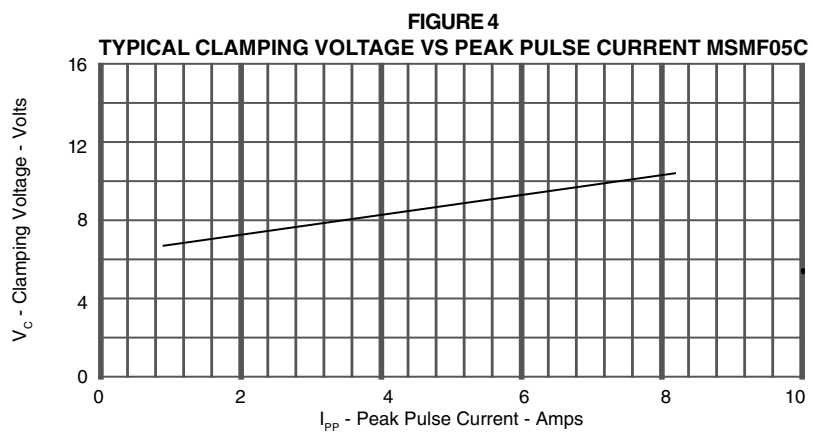
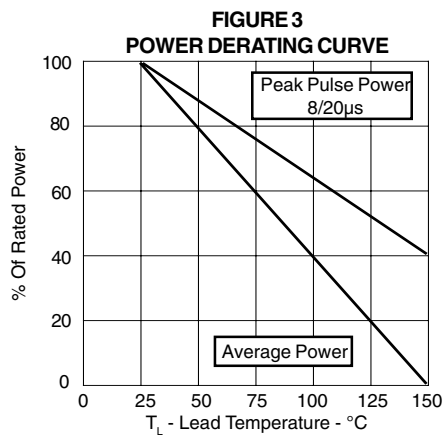
Note 1: Pins 1, 3, 4, 5, or 6 to pin 2.

**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2
PULSE WAVE FORM**





MSMF05C thru MSMF24C

SOT-563 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

Technical drawing of the SOT-563 package. The top view shows a rectangular package with dimensions A (width) and B (length). The top surface has three mounting pads labeled 6, 5, and 4. The bottom surface has three mounting pads labeled 1, 2, and 3. The distance between the center of pad 1 and the center of pad 2 is G. The distance between the center of pad 2 and the center of pad 3 is D. The side view shows the package height S, the lead height K, and the lead thickness J. The distance from the front face to the start of the lead is C.

SOT-563

3D perspective view of the SOT-563 package, showing its rectangular shape and three leads on one side.

PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC	-	0.020 BSC	-
J	0.08	0.16	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1.70	0.059	0.067

MOUNTING PAD

TYPICAL		
DIM	Millimeters	Inches
1	0.30	0.012
2	1.02	0.040
3	0.51	0.020
4	1.40	0.055
5	0.51	0.020

Diagram of the mounting pad layout. It shows a 3x2 grid of pads. The pads are labeled 1, 2, 3, 4, 5, and 6. The dimensions are: 1 (width of pad 1), 2 (width of pad 2), 3 (width of pad 3), 4 (width of pad 4), 5 (width of pad 5), and 6 (width of pad 6).

NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

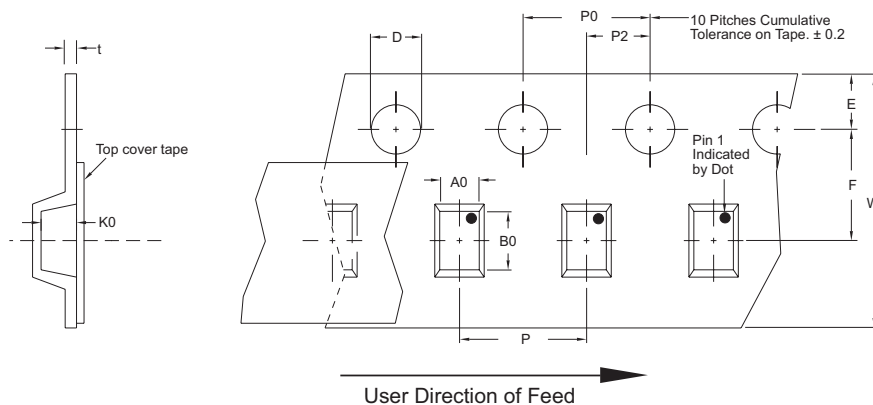
TAPE & REEL/BULK ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., *MSMF05C-T7*.
3. Suffix -T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., *MSMF05C-T13*.
4. Suffix -P = Lead-Free, Nickel-Palladium-Gold Plating, i.e., *MSMF05C-P-T7*.

Outline & Dimensions: Rev1 - 9/05, 06051

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.78 ± 0.05	1.78 ± 0.05	0.69 ± 0.05	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25



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