

STANDARD CAPACITANCE TVS ARRAY

**APPLICATIONS**

- ✓ Multiple I/O Port Protection
- ✓ Board Level Interface Connection
- ✓ RS-232, RS-422 & RS-423 Data Lines
- ✓ Portable Electronics

**IEC COMPATIBILITY (EN61000-4)**

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s - Level 2(Line-Gnd) & Level 3(Line-Line)

**FEATURES**

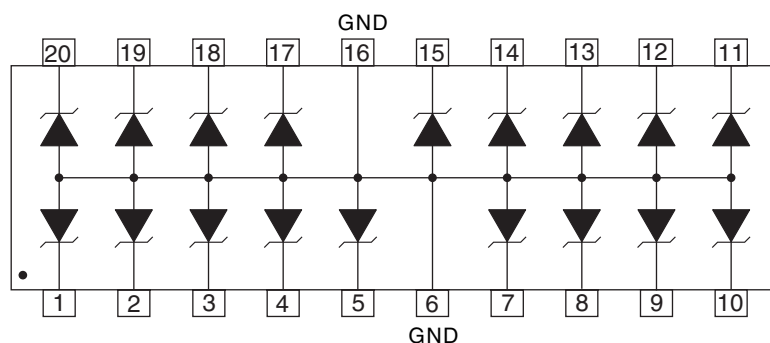
- ✓ 200 Watts Peak Pulse Power per Line (tp=8/20 $\mu$ s)
- ✓ ESD Protection > 25 kilovolts
- ✓ Unidirectional Configuration
- ✓ Monolithic Design
- ✓ Protection 18 I/O Lines
- ✓ RoHS Compliant in Lead-Free Versions

**MECHANICAL CHARACTERISTICS**

- ✓ Molded JEDEC SO-20WB (Wide Body) Package
- ✓ Weight 0.5 grams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
  - Tin-Lead - Sn/Pb, 85/15: 240-245°C
  - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability rating UL 94V-0
- ✓ 24mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, Date Code & Pin One Defined By Dot on Top of Package



**PIN CONFIGURATION**



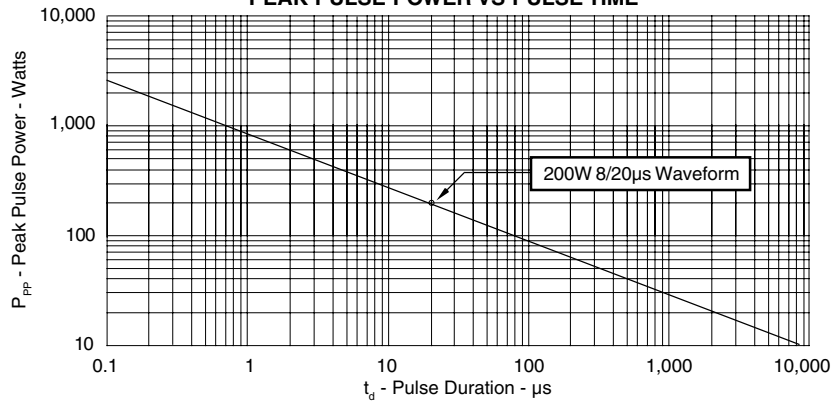
## DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	200	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

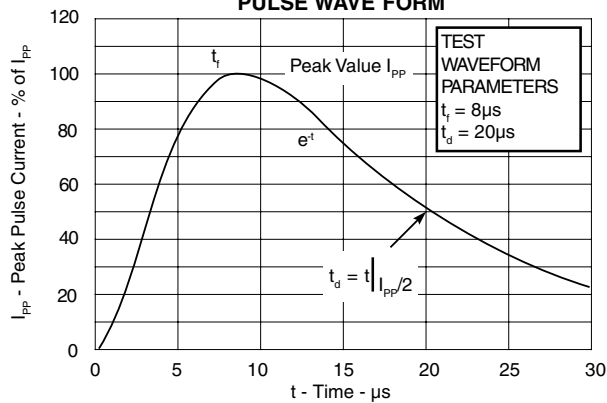
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified								
PART NUMBER	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM FORWARD VOLTAGE	MAXIMUM CAPACITANCE (PER LINE)
		$V_{WM}$ VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ $I_P = 1A$ $V_C$ VOLTS	@ 8/20 $\mu s$ $V_C @ I_{PP}$	@ $V_{WM}$ $I_D$ $\mu A$	@ 200 mA $V_F$ VOLTS	@ 0V, 1 MHz C pF
SM20M05-18	VEB	5.0	6.0	9.8	12.0V @ 16.0A	20	1.25	120

GRAPHS

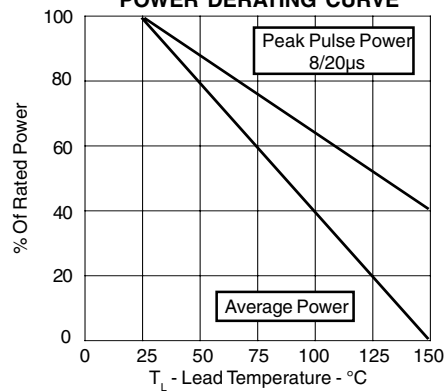
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**



**FIGURE 3  
POWER DERATING CURVE**



## PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

⊕ 0.010" (0.25 MM)
M
B
M

⊕ 0.010" (0.25 MM)
M
T
B
S
A
S

### SO-20WB (Wide Body)

PACKAGE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	12.65	12.95	0.499	0.510
B	7.40	7.60	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
F	0.50	0.90	0.020	0.035
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.25	0.32	0.010	0.012
K	0.10	0.25	0.004	0.009
P	10.05	10.55	0.395	0.415
R	0.25	0.75	0.010	0.029

### MOUNTING PAD

### NOTES

- T - = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusions.
- Maximum mold protrusion is 0.015" (0.380 mm) per side.
- Dimensioning and tolerances per ANSI Y14.5M, 1982.
- Dimensions are exclusive of mold flash and metal burrs.

### TAPE & REEL/BULK ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T13 = 13 Inch Reel - 1,000 pieces per 24mm tape, i.e., SM20M05-18-T13.
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., SM20M05-18-LF-T13.
- No Suffix = Product Shipped in Tubes of 37 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06018**

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