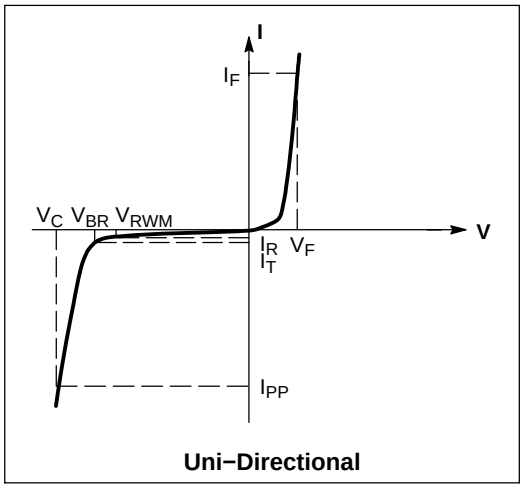
ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
ΘV_{BR}	Maximum Temperature Coefficient of V_{BR}
I_F	Forward Current
V_F	Forward Voltage @ I_F
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}



Uni−Directional

ELECTRICAL CHARACTERISTICS − UNIDIRECTIONAL

Device	Device Marking	Breakdown Voltage V_{BR}(V) Min	Nom	Max	I_T (mA)	Max Reverse Leakage Current I_R (μA)	V_R (V)	Max Reverse Voltage (Clamping Voltage) At Specified Reverse Surge Current (I_{RSM}) I_{RSM} (8x20 μs) (A)	V_{RSM} (8x20 μs) (V)	Max Reverse Voltage (Clamping Voltage) At Specified Reverse Surge Current (I_{RSM}) I_{RSM} (8x20 μs) (A)	V_{RSM} (8x20 μs) (V)	Capacitance @ 0 Volt Bias, 1 MHz (pF) Min	Max
SMS05T1	5V0	6.0	−	7.2	1.0	20	5.0	5.0	9.8	23	15.5	250	400
SMS12T1	12V	13.3	−	15	1.0	1.0	12	5.0	19.0	15	23.0	80	150
SMS15T1	15V	16.7	−	18.5	1.0	1.0	15	5.0	24.0	12	29.0	60	125
SMS24T1	24V	26.7	−	32	1.0	1.0	24	5.0	40.0	8	44.0	40	75

ORDERING INFORMATION

Device	Package	Shipping†
SMS05T1	SC−74	3000 / Tape & Reel
SMS05T1G	SC−74 (Pb−Free)	
SMS12T1	SC−74	3000 / Tape & Reel
SMS12T1G	SC−74 (Pb−Free)	
SMS15T1	SC−74	3000 / Tape & Reel
SMS15T1G	SC−74 (Pb−Free)	
SMS24T1	SC−74	3000 / Tape & Reel
SMS24T1G	SC−74 (Pb−Free)	

†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.

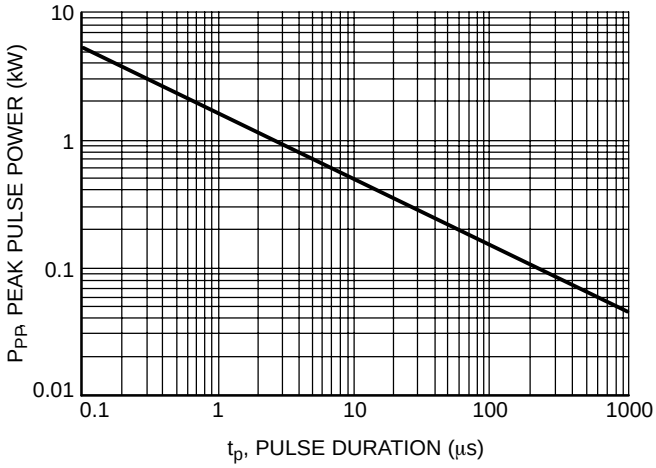


Figure 1. Non−Repetitive Peak Pulse Power versus Pulse Time

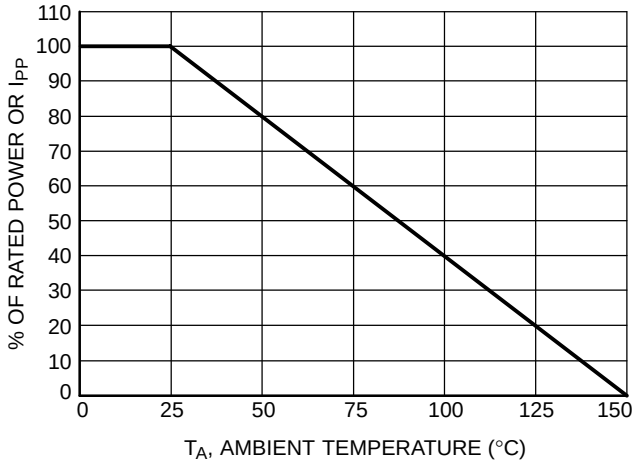


Figure 2. Power Derating Curve

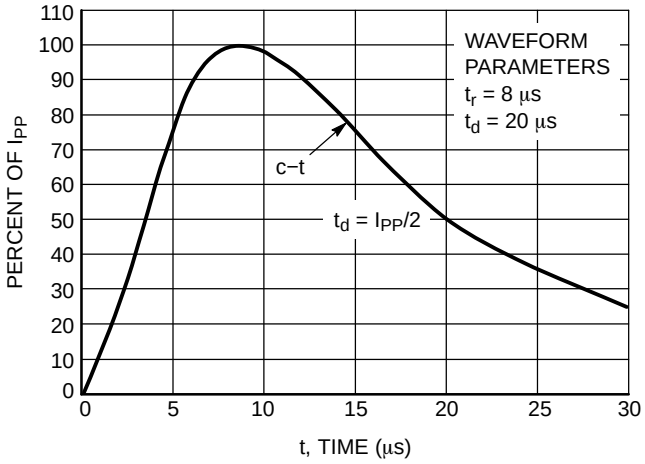


Figure 3. Pulse Waveform

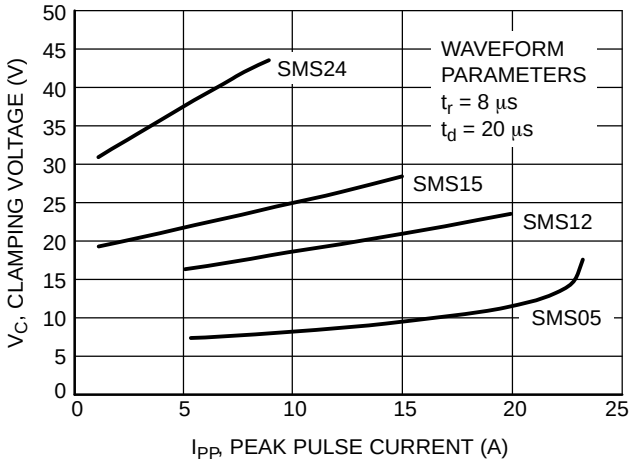


Figure 4. Clamping Voltage versus Peak Pulse Current

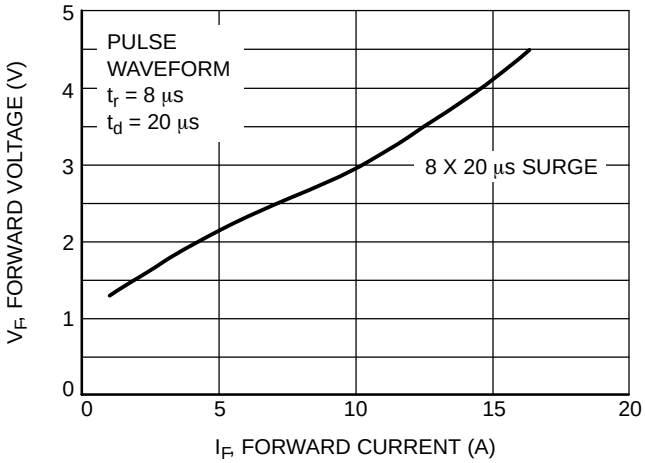


Figure 5. 8 x 20 μs V_F

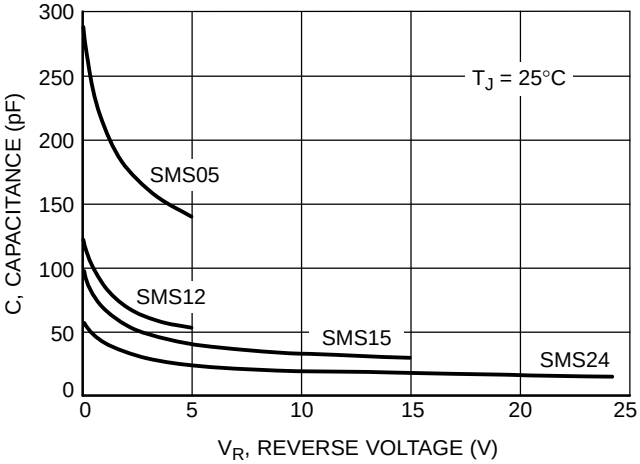
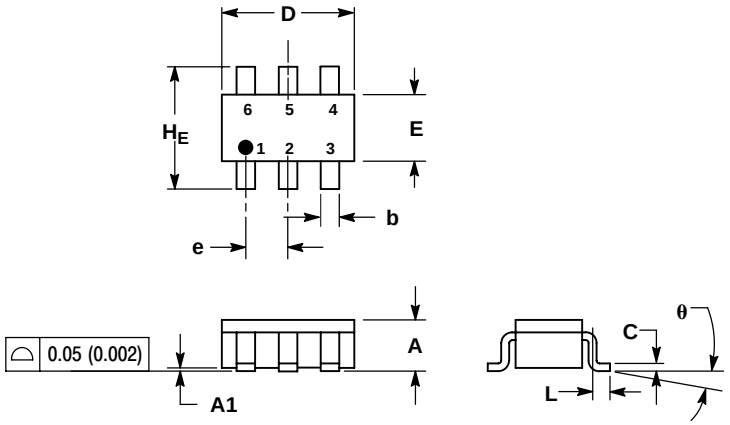


Figure 6. Typical Capacitance (SMS05 Series)

SMS05T1 Series

PACKAGE DIMENSIONS

SC−74 (SC−59ML)
CASE 318F−05
ISSUE M

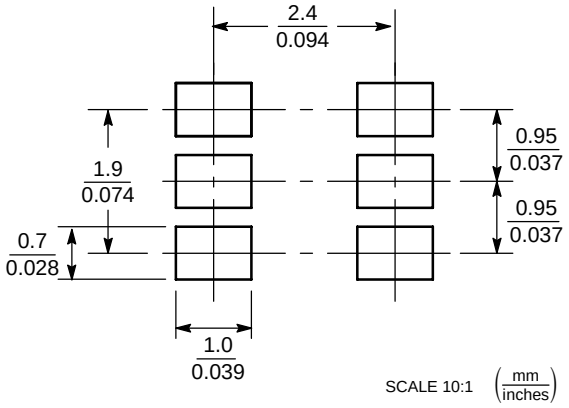


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318F−01, −02, −03, −04 OBSOLETE. NEW STANDARD 318F−05.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.035	0.039	0.043
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.25	0.37	0.50	0.010	0.015	0.020
c	0.10	0.18	0.26	0.004	0.007	0.010
D	2.90	3.00	3.10	0.114	0.118	0.122
E	1.30	1.50	1.70	0.051	0.059	0.067
e	0.85	0.95	1.05	0.034	0.037	0.041
L	0.20	0.40	0.60	0.008	0.016	0.024
H_E	2.50	2.75	3.00	0.099	0.108	0.118
θ	0°	–	10°	0°	–	10°

STYLE 1:
PIN 1. CATHODE
2. ANODE
3. CATHODE
4. CATHODE
5. ANODE
6. CATHODE

SOLDERING FOOTPRINT*



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

PUBLICATION ORDERING INFORMATION

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