

SW-TS05 SERIES

DESCRIPTION

This Series devices are used to enable equipment to meet various regulatory requirements including GR 1089, ITUK. 20, K. 21 and K. 45, IEC 60950, and TIA-968 (formerly known as FCC Part 68).

FEATURES

- >IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- >IEC 61000-4-5 (SURGE) $10/700\mu\text{s} > 3.5\text{kV}$ $V_c < 20\text{V}$
- >Low protection voltage
- >Fast response time
- >Bi-directional protection device
- >High temperature soldering guaranteed: $260^\circ\text{C}/10$ seconds at terminals
- >RoHS compliance



DO-214AC/AA PACKAGE

APPLICATIONS

- >Audio/Video line
- >Network and telecom
- >Data lines and security systems
- >Serial ports

PART NUMBER AND ELECTRICAL PARAMETER @ $T=25^\circ\text{C}$

Part Number	V_{RWM}	I_{R}	V_{BR}			I_{H}	C_{O}	10/1000 μS
	V	μA	V			mA	pF	V
	TYP.	MAX	MIN	TYP.	MAX	MAX	MAX	Min
SW-TS05A-LF	6.5	3	7.5	9.0	12	400	50	50
SW-TS05B-LF	6.5	3	7.5	9.0	12	400	70	70
SW-TS05C-LF	6.5	3	7.5	9.0	12	400	90	90

Maximum Ratings @ $T=25^\circ\text{C}$

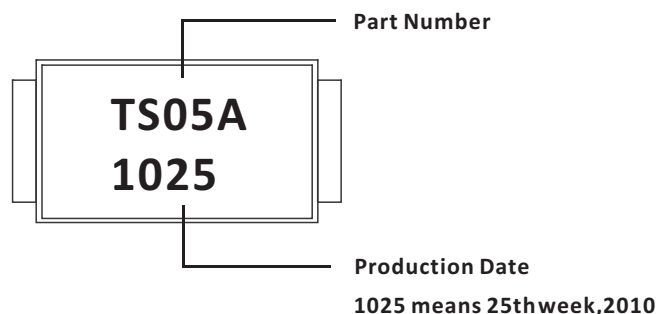
Rating	Symbol	Value	Units	Conditions
Lead Soldering Temperature	T_{L}	260	$^\circ\text{C}$	10 Sec.
Operating Temperature Range	T_{J}	-55 to +150	$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$	

PART NUMBERING SYSTEM

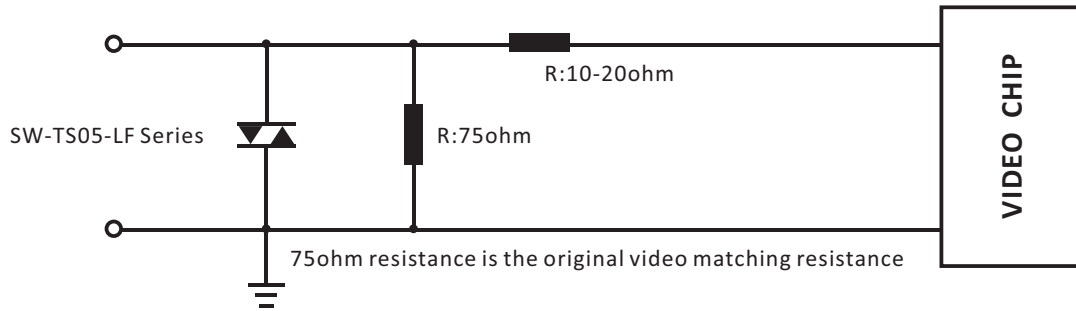
SW TS 05 A LF
 (1) (2) (3) (4) (5)

- (1) SEMIWILL Brand
- (2) Surge & ESD Protection Device
- (3) Reverse Working Voltage $V_{\text{RWM}}: 6.5\text{V}$
- (4) 10/1000 μS : A-50A B-70A C-90A
- (5) LF : Lead free

PART MARKING SYSTEM

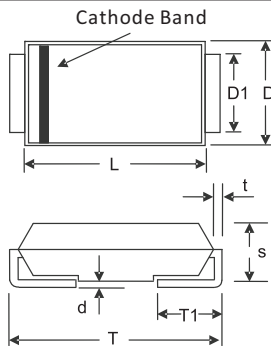


TYPICAL APPLICATION CIRCUIT

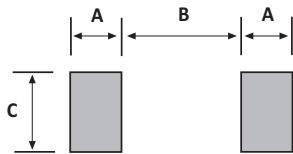


DIMENSIONS

SMA



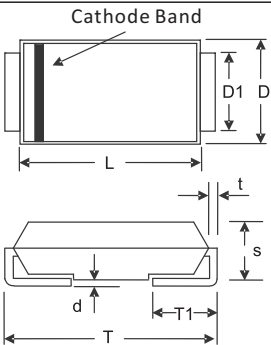
SMB/DO-214AA



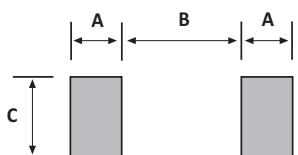
Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
L	4.06	4.57	0.160	0.180
D	3.30	3.94	0.130	0.155
D1	1.95	2.20	0.077	0.086
T	5.21	5.59	0.205	0.220
T1	0.76	1.52	0.030	0.060
d	-	0.20	-	0.008
s	2.13	2.47	0.084	0.097
t	0.152	0.31	0.006	0.012

Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.160	-	0.085	-
B	-	2.740	-	0.107
C	2.160	-	0.085	-

SMB



SMB/DO-214AA

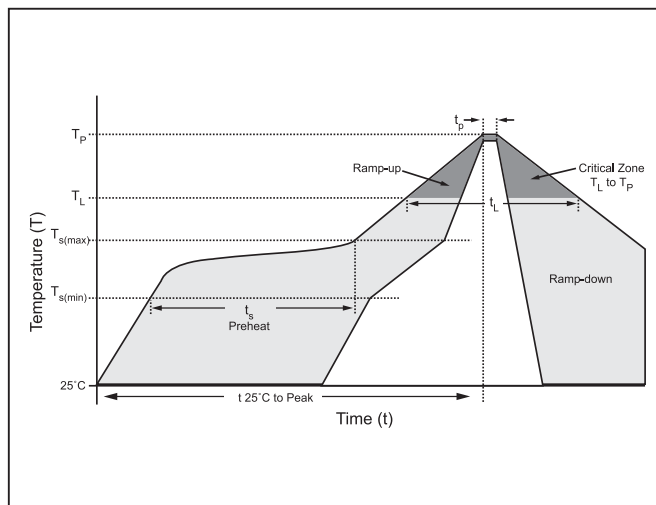


Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
L	3.99	4.50	0.157	0.177
D	2.54	2.79	0.100	0.110
D1	1.25	1.65	0.049	0.065
T	4.93	5.28	0.194	0.208
T1	0.78	1.52	0.030	0.060
d	-	0.203	-	0.008
s	1.98	2.29	0.078	0.090
t	0.152	0.305	0.006	0.012

Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.100	-	0.082	-
B	-	2.300	-	0.090
C	1.800	-	0.070	-

SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_s)	60 – 150seconds
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C


ORDERING INFORMATION

PART NUMBER	MARKING	COMPONENT PACKAGE	QTY/REEL	REEL SIZE
SW-TS05A-LF	N.	DO-214AC	5000	13"
SW-TS05B-LF	N.	DO-214AA	2500	13"
SW-TS05C-LF	N.	DO-214AA	2500	13"

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