WILLAS

RoHS COMPLIANT

3.0A SUFRACE MOUNT FAST RECOVERY RECTIFIERS-50-1000V

SMC-L PACKAGE

FFM301L THRU FFM307L

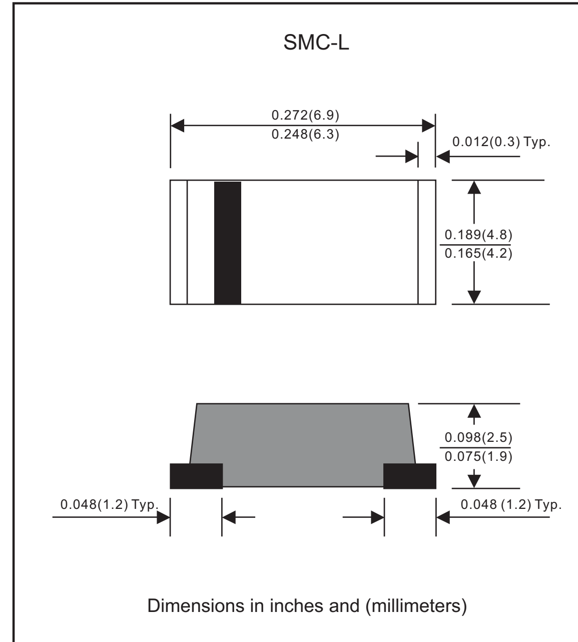
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Moisture Sensitivity Level 1
- **Pb-Free package is available**
  RoHS product for packing code suffix "G"
  Halogen free product for packing code suffix "H"

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AB / SMCËŠ
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.19 gram

Package outline



Dimensions in inches and (millimeters)

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			100	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_J = 125°C				300	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		60		pF
Storage temperature		T_{STG}	-65		+175	°C

<table>
<tr><th>SYMBOLS</th><th>V_{RRM} *1 (V)</th><th>V_{RMS} *2 (V)</th><th>V_R *3 (V)</th><th>V_F *4 (V)</th><th>t_{rr} *5 (ns)</th><th>Operating temperature T_J, (°C)</th></tr>
<tr><td>FFM301Š</td><td>50</td><td>35</td><td>50</td><td rowspan="7">1.30</td><td rowspan="4">150</td><td rowspan="7">-55 to +150</td></tr>
<tr><td>FFM302Š</td><td>100</td><td>70</td><td>100</td></tr>
<tr><td>FFM303Š</td><td>200</td><td>140</td><td>200</td></tr>
<tr><td>FFM304Š</td><td>400</td><td>280</td><td>400</td></tr>
<tr><td>FFM305Š</td><td>600</td><td>420</td><td>600</td><td>250</td></tr>
<tr><td>FFM306Š</td><td>800</td><td>560</td><td>800</td><td rowspan="2">500</td></tr>
<tr><td>FFM307Š</td><td>1000</td><td>700</td><td>1000</td></tr>
</table>

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=3.0A

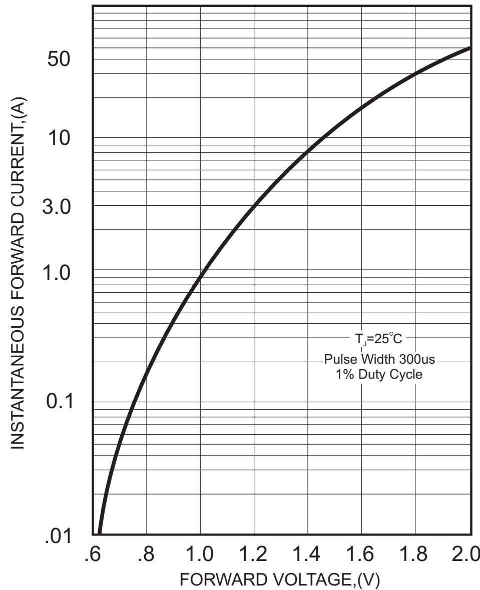
*5 Maximum Reverse recovery time, note 1

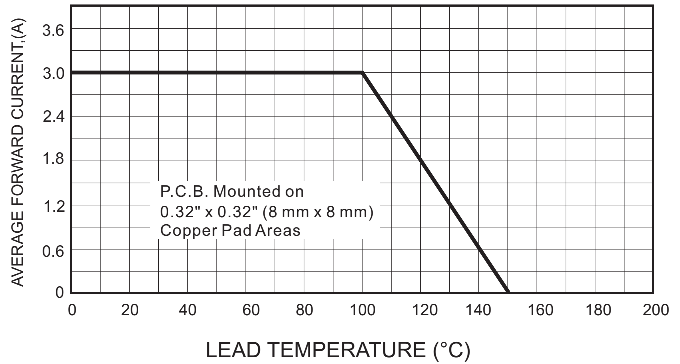
Note 1. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

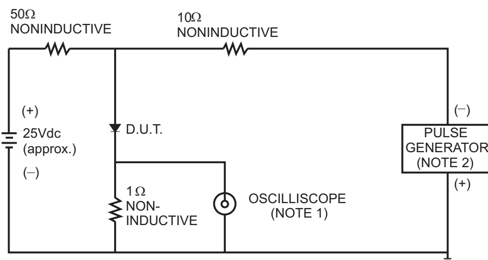
Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMCËŠ	13"	3,000	8.0	6,000	337*337*37	330	350*330*360	48,000	17.2

Rating and characteristic curves

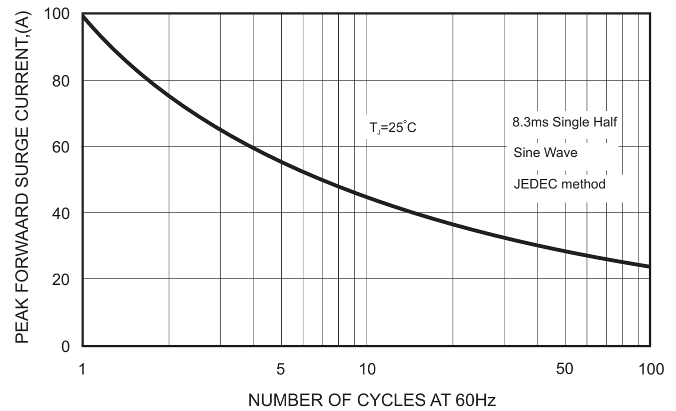


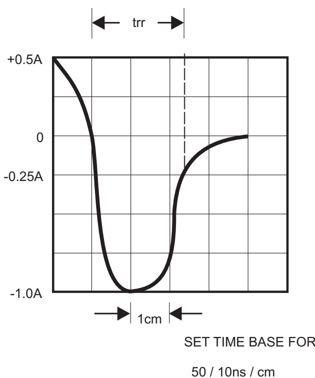


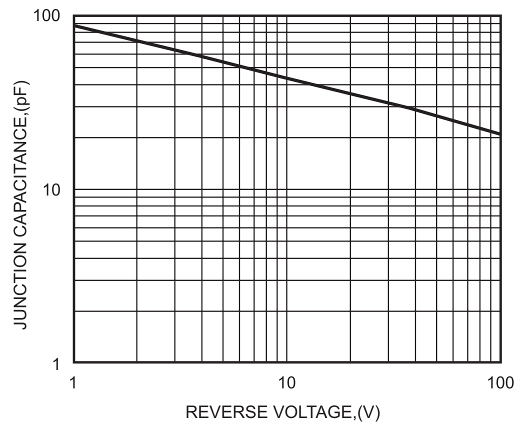


NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.







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GA 7 ! @PACKAGE

FFM' 01L
THRU
FFM' 07L

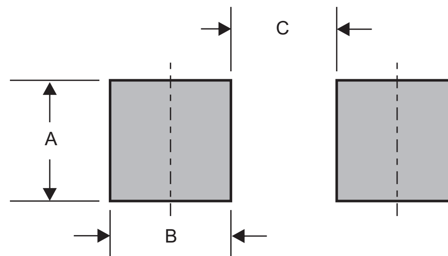
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode	1 2	1 2

Marking

Type number	Marking code
FFM301Š	F31
FFM302Š	F32
FFM303Š	F33
FFM304Š	F34
FFM305Š	F35
FFM306Š	F36
FFM307Š	F37

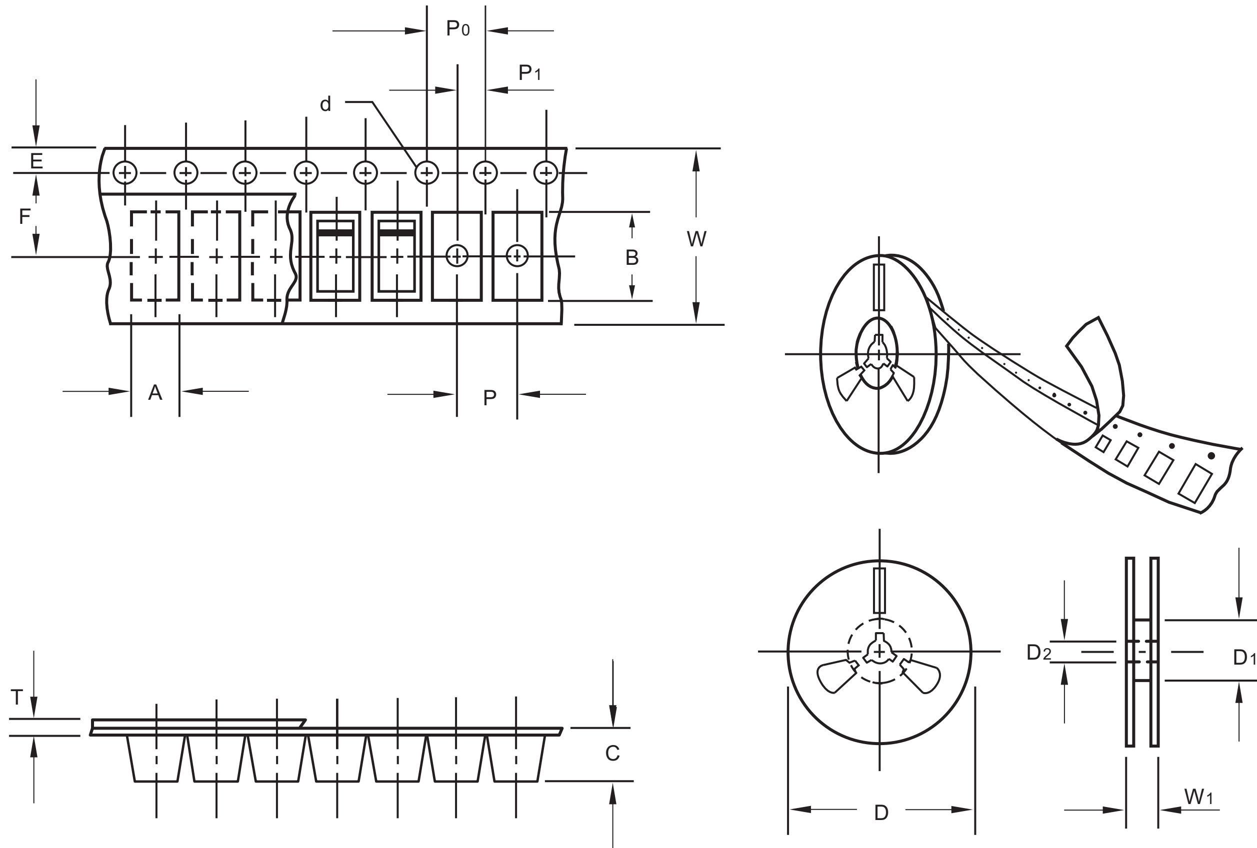
Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMCĔŠ	0.189 (4.80)	0.063 (1.60)	0.158 (4.00)

Packing information



unit:mm

Item	Symbol	Tolerance	SMC
Carrier width	A	0.1	5.10
Carrier length	B	0.1	7.20
Carrier depth	C	0.1	2.50
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D_1	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	12.00
Reel width	W_1	1.0	18.00

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.