

LFM0530-T1006

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LFM0530-T1006

**500mA Surface Mount
Schottky Barrier Rectifier 30V**

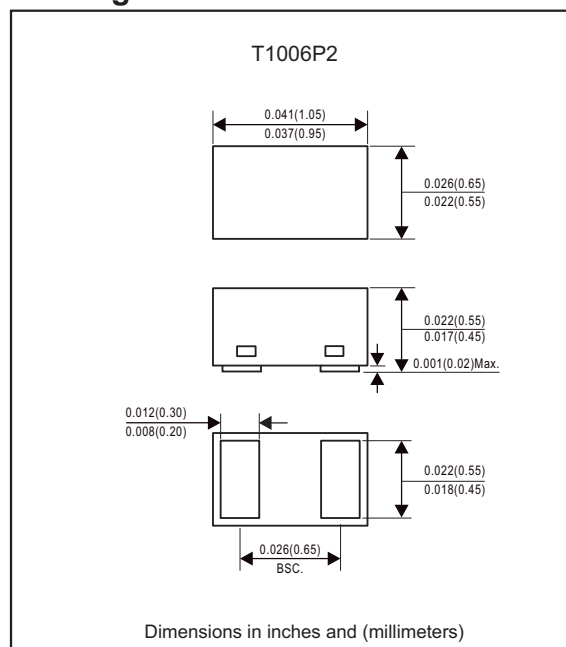
Features

- Low forward voltage
- Designed for mounting on small surface.
- Extremely thin/leadless package.
- Majority carrier conduction.
- We declare that the material of product compliance with RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex.LFM0530-T1006-H

Mechanical data

- Case : Molded plastic, T1006P2
- Terminal: Sn/Au plated, solderable per MIL-STD-750D,method 2026.
- Mounting Position : Any
- Weight : 0.001gram (approx.)

Package outline



Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Reverse stand-off voltage		V_{RRM}			30	V
DC reverse voltage		V_R			30	V
Mean rectifying current		I_O			500	mA
Forward surge current	8.3ms single half-wave superimposed on rate load (JEDEC method)	I_{FSM}			3	A
Power dissipation		P_D			400	mW
Operating junction temperature range		T_J	-40		+125	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-40		+125	$^{\circ}\text{C}$

Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 10\text{ mA}$ $I_F = 100\text{ mA}$ $I_F = 500\text{ mA}$	V_F			0.25 0.34 0.45	V
Reverse current	$V_R = 30\text{ V}$	I_R		90	200	μA
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_T		36		pF

Rating and characteristic curves(LFM0530-T1006)

FIG.1- FORWARD CHARACTERISTICS

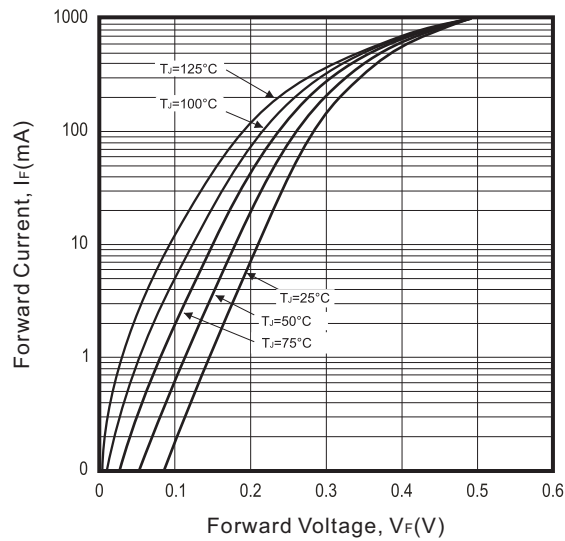


FIG.2- REVERSE CHARACTERISTICS

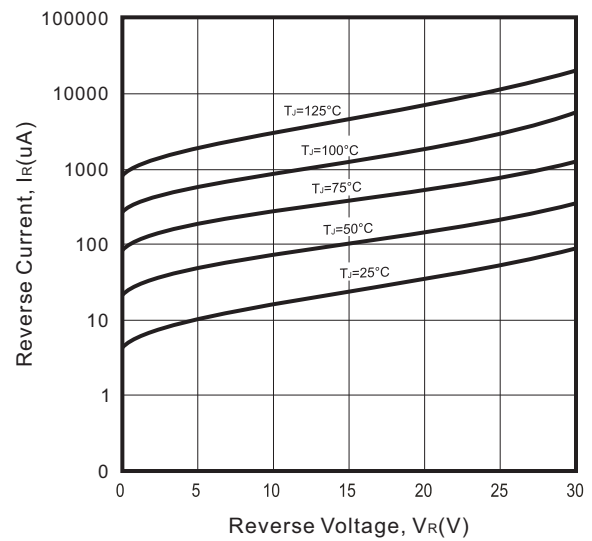


FIG.3- CAPACITANCE CHARACTERISTICS

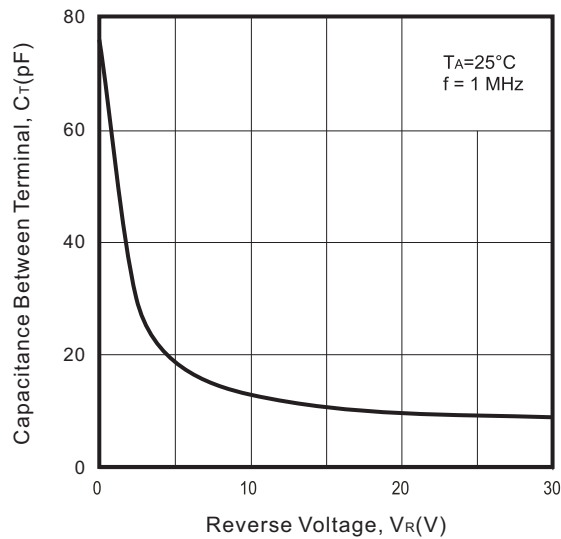


FIG.4- FORWARD CURRENT DERATING CURVE

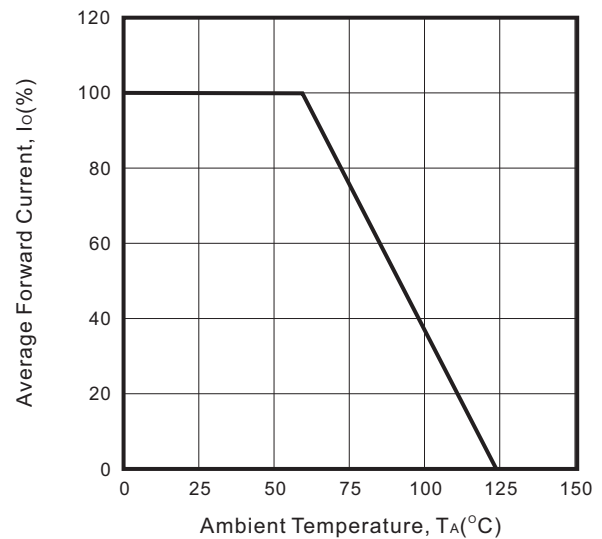
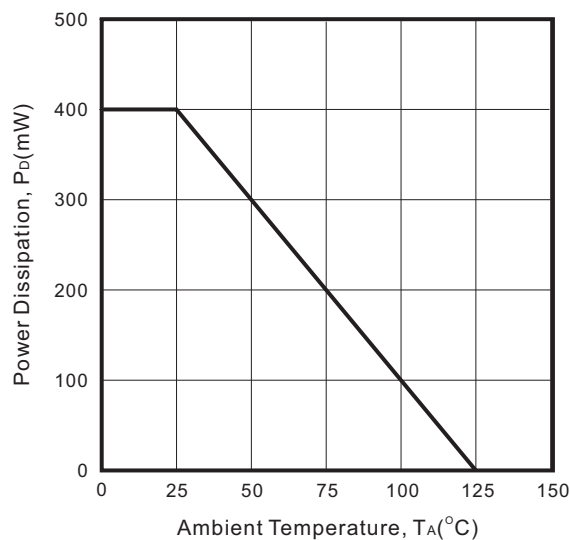


FIG.5- POWER DERATING CURVE



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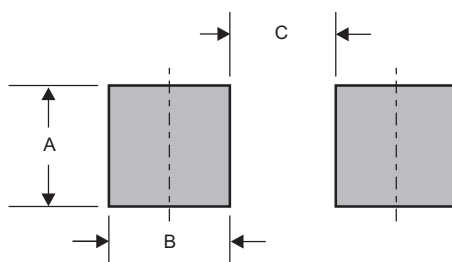
Pinning information

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

Marking

Type number	Marking code
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Suggested solder pad layout

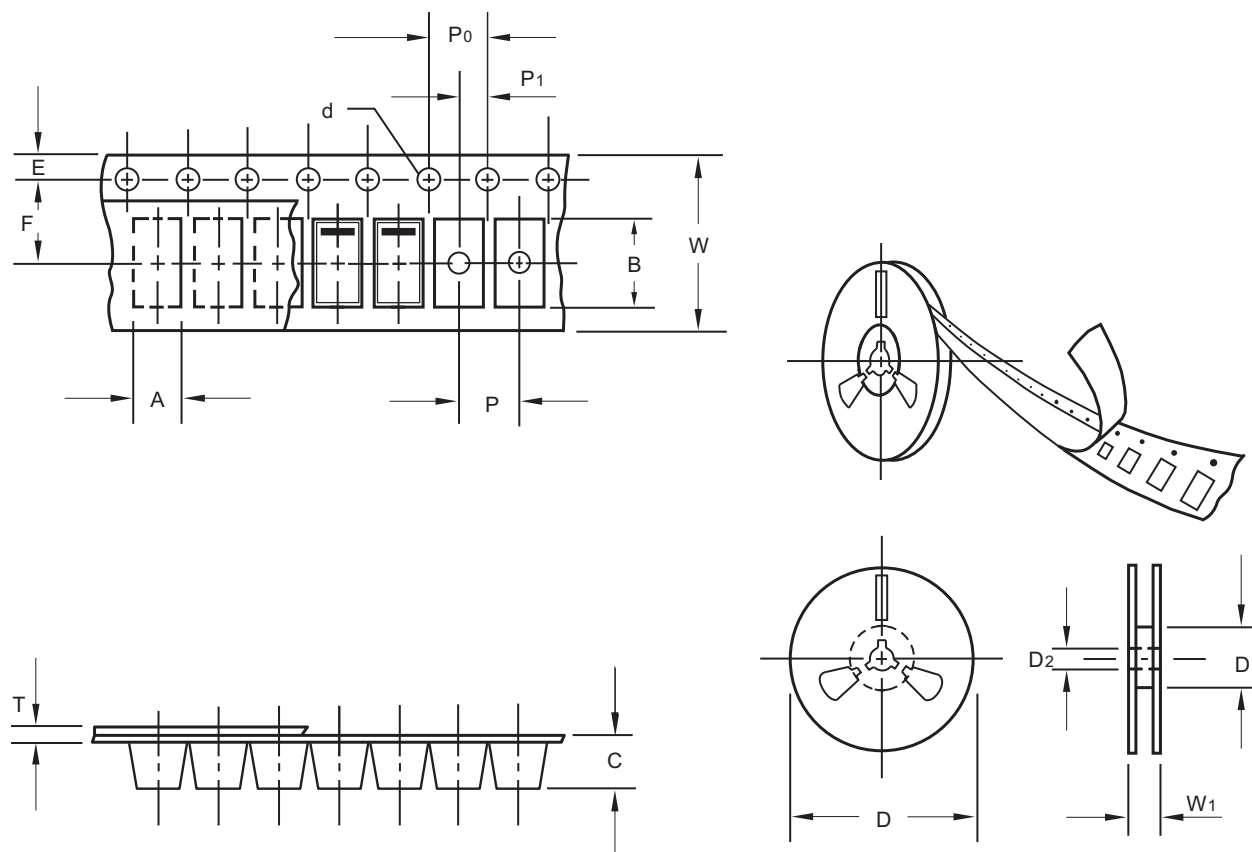


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-882	0.028 (0.70)	0.016 (0.40)	0.012 (0.30)

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Packing information



unit:mm

Item	Symbol	Tolerance	T1006P2
Carrier width	A	0.1	0.75
Carrier length	B	0.1	1.17
Carrier depth	C	0.1	0.65
Sprocket hole	d	0.1	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	60.00
Feed hole diameter	D ₂	0.2	13.50
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.20
Tape width	W	0.3	8.00
Reel width	W ₁	1.0	12.00

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

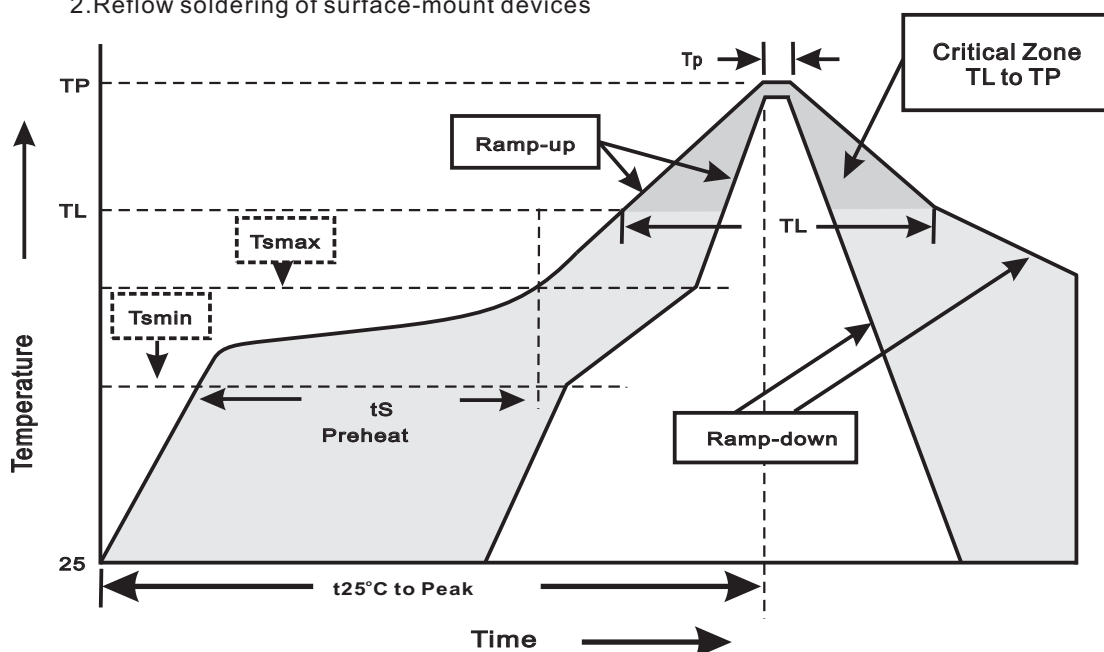
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Reel packing

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)
T1006P2	7"	5,000	4.0	50,000	183*123*183	178	382*257*387	400,000	8.6

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	$<3^\circ\text{C/sec}$
Preheat -Temperature Min(T_{smin}) -Temperature Max(T_{smax}) -Time(min to max)(t_s)	150°C 200°C 60~120sec
T_{smax} to T_L -Ramp-upRate	$<3^\circ\text{C/sec}$
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	$<6^\circ\text{C/sec}$
Time 25°C to Peak Temperature	$<6\text{minutes}$

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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260 \pm 5^{\circ}\text{C}$ for $10 \pm 2\text{sec.}$	MIL-STD-750D METHOD-2031
2. Solderability	at $245 \pm 5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_{\text{BR}} = V_{\text{BR Min}} * 80\%$ at $T_{\text{J}} = 125^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Pressure Cooker	$15P_{\text{SIG}}$ at $T_{\text{A}} = 121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
5. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
6. Humidity	at $T_{\text{A}} = 85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
7. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031