ABS2 THRU ABS10

深圳FMS Kinter 131 6803 0058

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ABS2 THRU ABS10

1.0A Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers-200-1000V

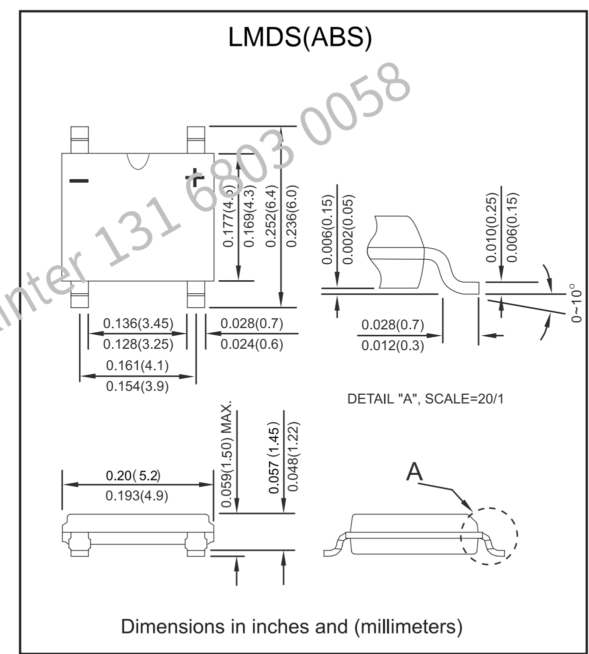
Features

- Glass passivated junction
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- High temperature soldering guaranteed: 260°C / 10 seconds / 0.375" (9.5mm) lead length at 5 lbs., (2.3 kg) tension
- High surge current capability
- Suffix "-H" indicates Halogen-free part, ex.ABS2-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, LMDS
- Terminals : Solder plated, solderable per MIL-STD-202, Method 208
- Polarity : marked on body
- Mounting Position : Any
- Weight : Approximated 0.0992 gram

Package outline



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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	On glass-epoxy P.C.B. On aluminum substrate	I_O			0.8 1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM}$ T_J = 25°C $V_R = V_{RRM}$ T_J = 125°C	I_R			10 500	μA
Typical Thermal resistance	Junction to lead On aluminum substrate On Glass-Epoxy substrate	$R_{θJL}$ $R_{θJA}$		25 62.5 80		°C/W
Rating for fusing (t < 8.3 ms)		I^2t			3.7	A^2s
Storage temperature		T_{STG}	-55		+150	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	Operating temperature T_J, (°C)
ABS2	200	140	200	0.95	-55 to +150
ABS4	400	280	400		
ABS6	600	420	600		
ABS8	800	560	800		
ABS10	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=0.4A

Rating and characteristic curves (ABS2 THRU ABS10)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

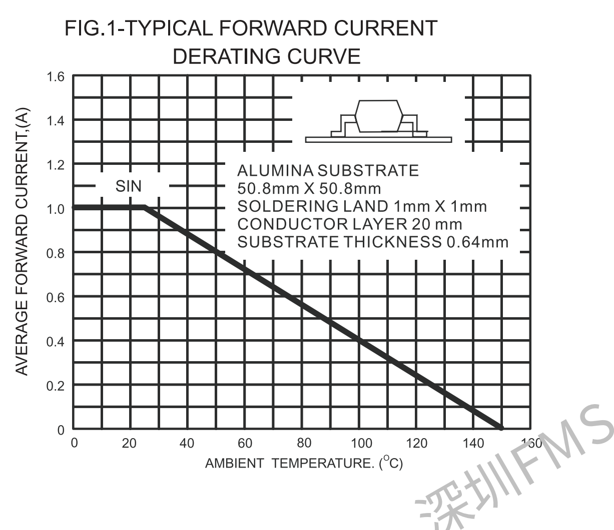

FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

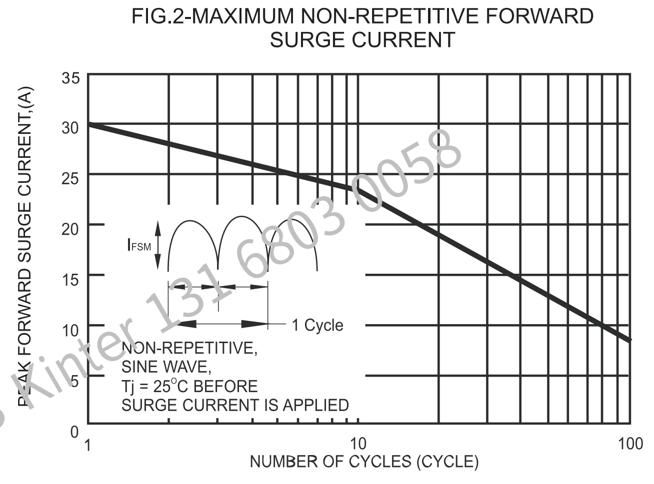

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FIG.3-TYPICAL FORWARD CHARACTERISTICS

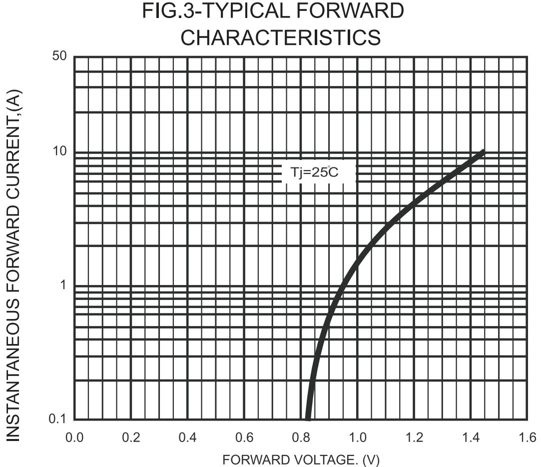


FIG.4-TYPICAL REVERSE CHARACTERISTICS

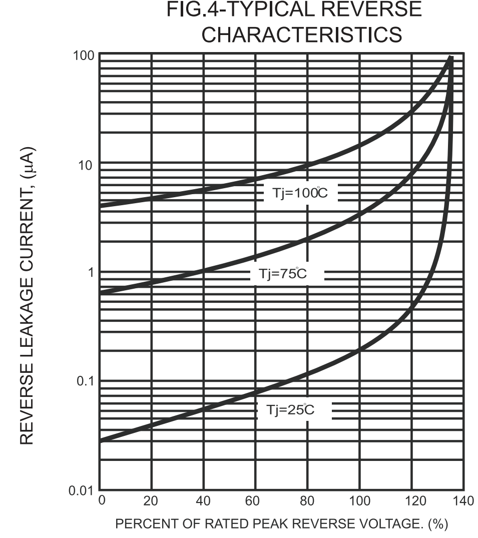
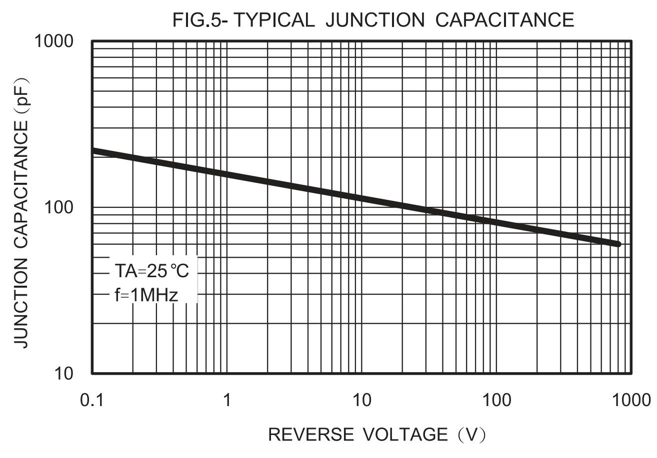


FIG.5- TYPICAL JUNCTION CAPACITANCE



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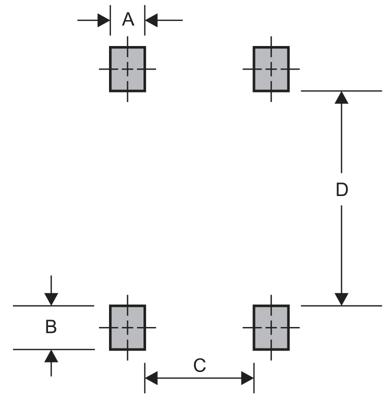
Pinning information

Simplified outline	Symbol
− +	+ ~ ~ -

Marking

Type number	Marking code	Example	
		1. For Halogen Device	2. For Halogen-free Device
ABS2 ABS4 ABS6 ABS8 ABS10	ABS2 ABS4 ABS6 ABS8 ABS10	ABS8 — Marking code	ABS8 — 1st line: Marking code 2nd line: __ indicate Halogen-Free.

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D
LMDS	0.024 (0.60)	0.024 (0.60)	0.132 (3.35)	0.193 (4.90)

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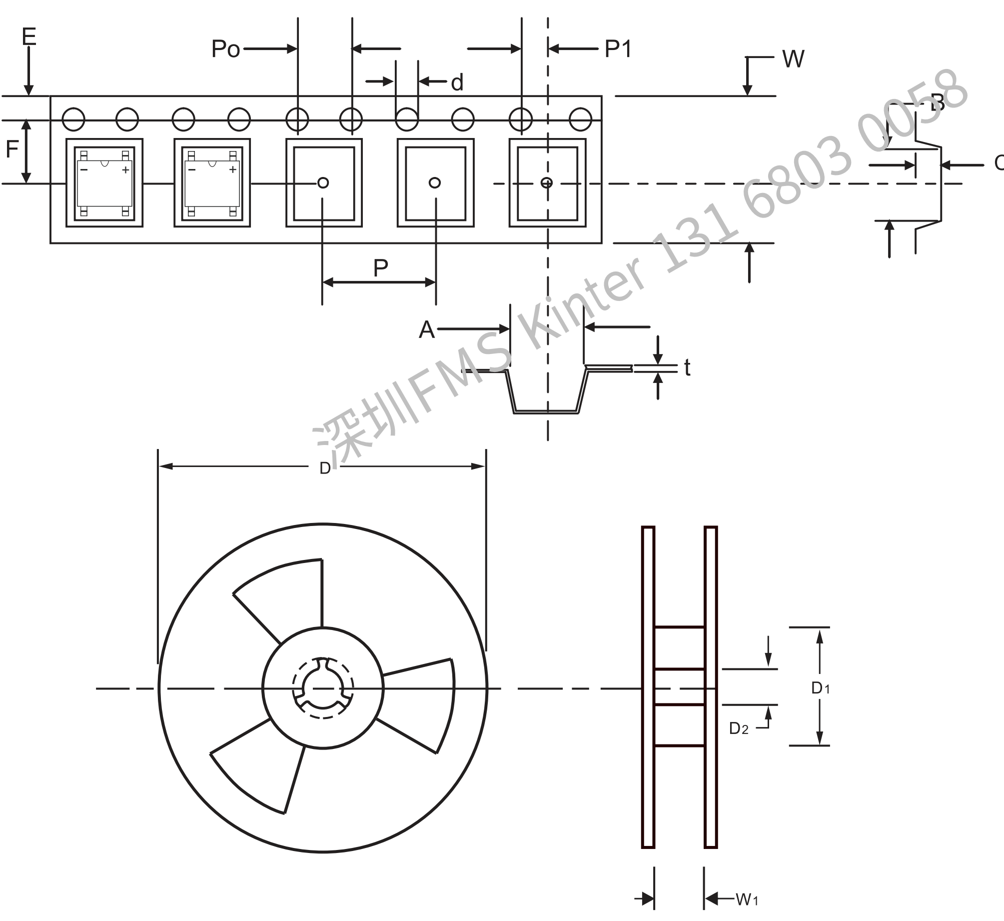
Packing information



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unit:mm

Item	Symbol	Tolerance	LMDS
Carrier width	A	0.1	5.31
Carrier length	B	0.1	6.68
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
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	-
7" Reel inner diameter	D_1	min	-
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.05	5.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.05	2.00
Overall tape thickness	t	0.1	0.30
Tape width	W	0.3	12.00
Reel width	W_1	1.0	12~14.4

Note:Devices are packed in accor dance with EIA standar 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)
LMDS	13"	5,000	8.0	10,000	337*337*37	330	350*330*360	80,000	19.0

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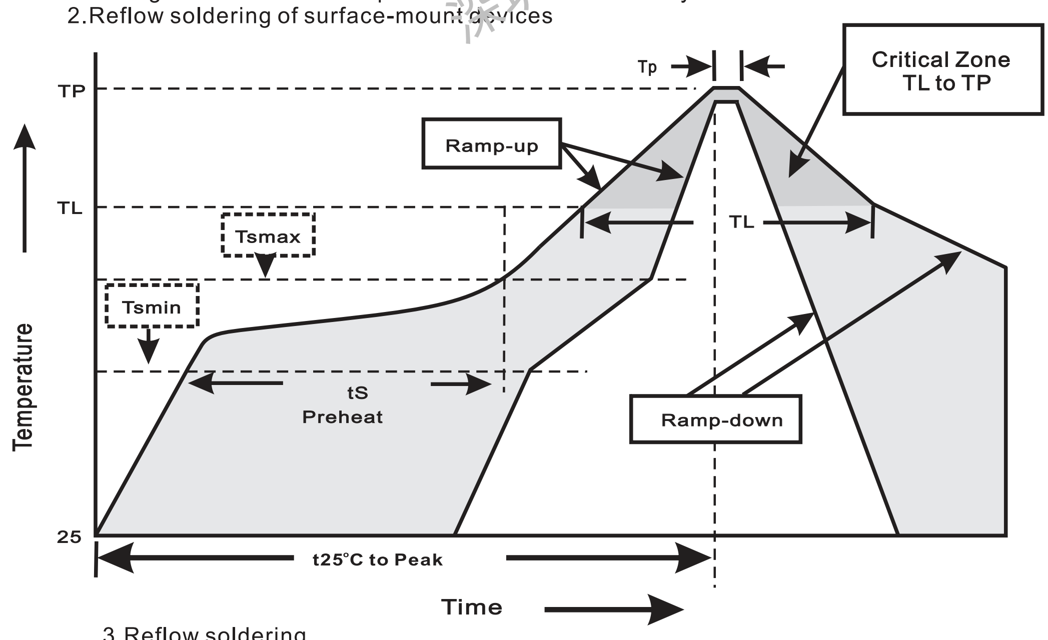
Suggested thermal profiles for soldering processes

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°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	<3°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°C/sec
Time 25°C to Peak Temperature	<6minutes

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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	V_R=80% rate at T_J=150°C for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at T_A=25°C for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	T_A = 25°C, I_F = I_O On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	15P_{SIG} at T_A=121°C for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Thermal Shock	0°C for 5 min. rise to 100°C for 5 min. total 10 cycles.	MIL-STD-750D METHOD-1056
9. Forward Surge	8.3ms single half sine-wave superimposed on rated load, one surge.	MIL-STD-750D METHOD-4066-2
10. Humidity	at T_A=85°C, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
11. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031

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Document ID	Issued Date	Revised Date	Revision	Page.
DS-241168	2010/06/10	2012/11/08	F	7