

MMBD2835LT1, MMBD2836LT1

Monolithic Dual Switching Diodes

Features

- Pb-Free Packages are Available

MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	35 75	Vdc
Forward Current	I_F	100	mAdc

THERMAL CHARACTERISTICS

Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

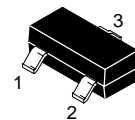
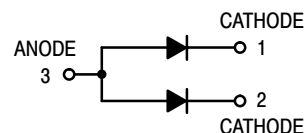
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

- FR-5 = $1.0 \times 0.75 \times 0.062$ in.
- Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.



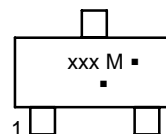
ON Semiconductor®

<http://onsemi.com>



SOT-23 (TO-236AB)
CASE 318-08
STYLE 12

MARKING DIAGRAM



xxx = Specific Device Code
A3X = MMBD2835LT1
A2X = MMBD2836LT1
M = Date Code
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
MMBD2835LT1	SOT-23	3000 / Tape & Reel
MMBD2835LT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel
MMBD2836LT1	SOT-23	3000 / Tape & Reel
MMBD2836LT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel

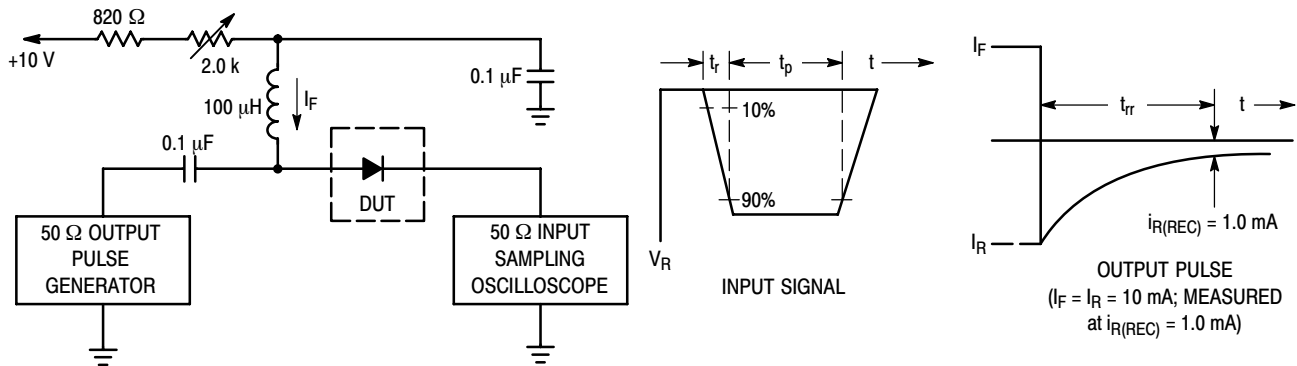
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

MMBD2835LT1, MMBD2836LT1

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Reverse Breakdown Voltage ($I_R = 100 \mu\text{Adc}$)	MMBD2835LT1 MMBD2836LT1	$V_{(BR)}$	35 75	- -	Vdc
Reverse Voltage Leakage Current (Note 3) ($V_R = 30 \text{ Vdc}$) ($V_R = 50 \text{ Vdc}$)	MMBD2835LT1 MMBD2836LT1	I_R	- -	100 100	nAdc
Diode Capacitance ($V_R = 0 \text{ V}$, $f = 1.0 \text{ MHz}$)		C_T	-	4.0	pF
Forward Voltage ($I_F = 10 \text{ mAdc}$) ($I_F = 50 \text{ mAdc}$) ($I_F = 100 \text{ mAdc}$)		V_F	- - -	1.0 1.0 1.2	Vdc
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$, $I_{R(REC)} = 1.0 \text{ mAdc}$) (Figure 1)		t_{rr}	-	4.0	ns

3. For each individual diode while the second diode is unbiased.



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

MMBD2835LT1, MMBD2836LT1

CURVES APPLICABLE TO EACH CATHODE

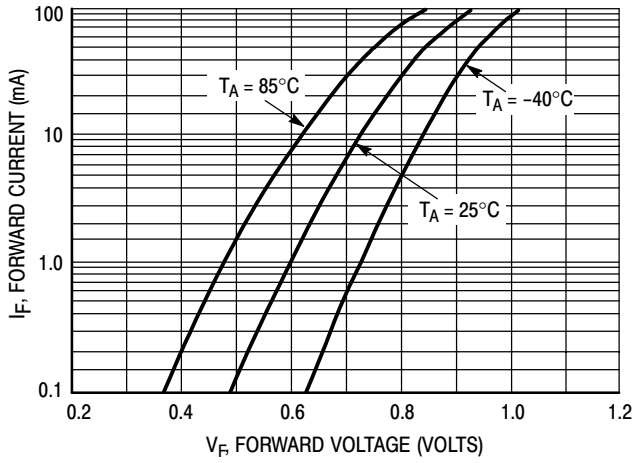


Figure 2. Forward Voltage

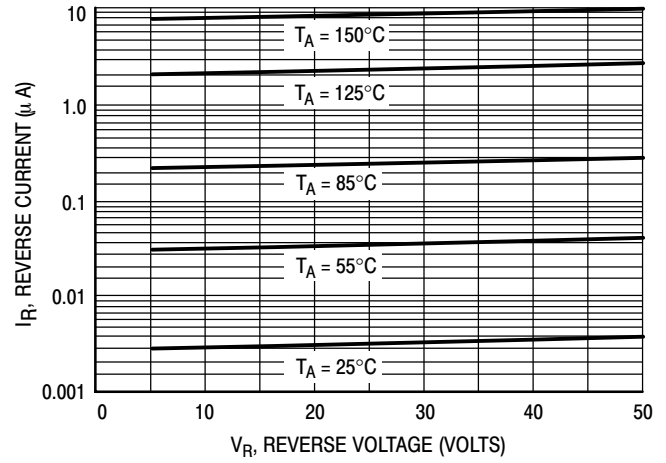


Figure 3. Leakage Current

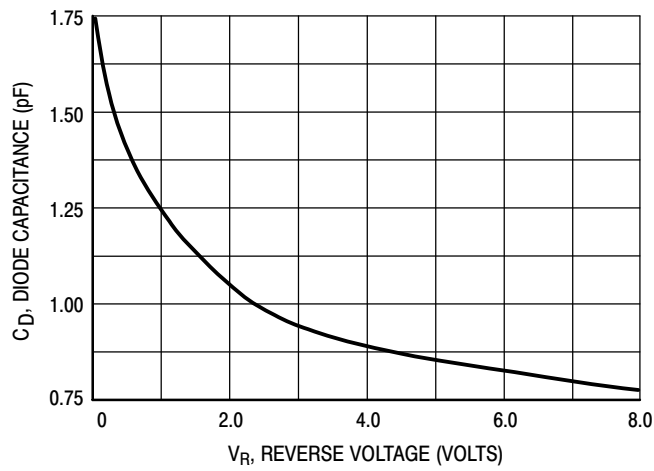
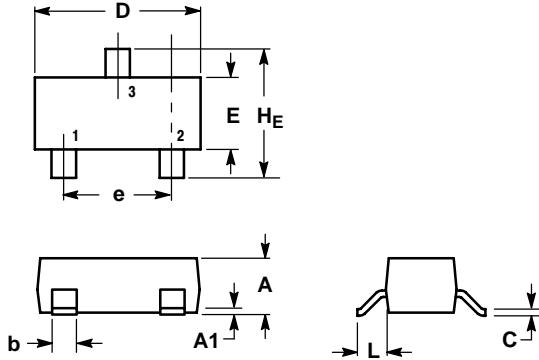


Figure 4. Capacitance

MMBD2835LT1, MMBD2836LT1

PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AL



NOTES:

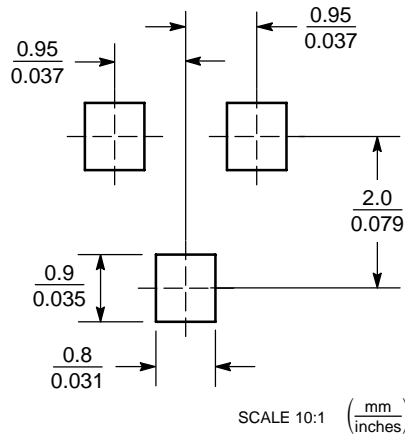
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
H _E	2.10	2.40	2.64	0.083	0.094	0.104

STYLE 12:

- PIN 1. CATHODE
2. CATHODE
3. ANODE

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.

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