# MMBFJ177LT1

# **JFET Chopper**

# **P-Channel - Depletion**

## **Features**

• Pb-Free Package is Available

#### **MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Drain-Gate Voltage	$V_{DG}$	25	Vdc
Reverse Gate–Source Voltage	V <sub>GS(r)</sub>	-25	Vdc

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.

#### THERMAL CHARACTERISTICS

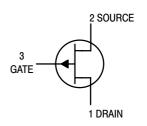
Total Device Dissipation FR-5 Board (Note 1)	P <sub>D</sub>	225	mW
T <sub>A</sub> = 25°C Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction–to–Ambient	$R_{\theta JA}$	556	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

1.  $FR-5 = 1.0 \times 0.75 \times 0.062$  in.



## ON Semiconductor®

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SOT-23 (TO-236AB) CASE 318-08 STYLE 10

## **MARKING DIAGRAM**



6Y = Specific Device Code

M = Date Code ■ = Pb–Free Package

(Note: Microdot may be in either location)

## **ORDERING INFORMATION**

Device	Package	Shipping <sup>†</sup>
MMBFJ177LT1	SOT-23	3000 Tape & Reel
MMBFJ177LT1G	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.

## MMBFJ177LT1

## **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise noted)

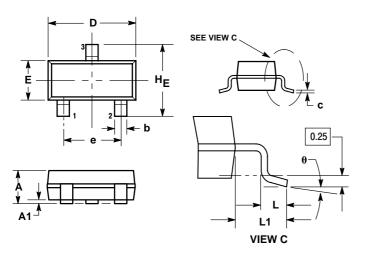
Charac	Symbol	Min	Max	Unit	
OFF CHARACTERISTICS			-	•	•
Gate-Source Breakdown Voltage (V <sub>DS</sub> = 0	V <sub>(BR)GSS</sub>	30	_	Vdc	
Gate Reverse Current ( $V_{DS} = 0 \text{ Vdc}, V_{GS}$	I <sub>GSS</sub>	-	1.0	nAdc	
Gate Source Cutoff Voltage (V <sub>DS</sub> = 15 Vdd	V <sub>GS(off)</sub>	0.8	2.5	Vdc	
ON CHARACTERISTICS					
Zero-Gate-Voltage Drain Current (V <sub>GS</sub> = 0, V <sub>DS</sub> = 15 Vdc) (Note 2)		I <sub>DSS</sub>	1.5	20	mAdc
Drain Cutoff Current (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> =	I <sub>D(off)</sub>	-	1.0	nAdc	
Drain Source On Resistance ( $I_D = 500 \mu A$	r <sub>DS(on)</sub>	-	300	Ω	
Input Capacitance	V <sub>DS</sub> = 0, V <sub>GS</sub> = 10 Vdc	C <sub>iss</sub>	_	11	pF
Reverse Transfer Capacitance	f = 1.0 MHz	C <sub>rss</sub>	_	5.5	1

<sup>2.</sup> Pulse Test: Pulse Width < 300 μs, Duty Cycle ≤ 2%.

## MMBFJ177LT1

#### PACKAGE DIMENSIONS

SOT-23 (TO-236AB) CASE 318-08 **ISSUE AN** 



#### NOTES

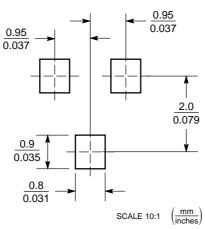
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
   MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	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
С	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
е	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104

STYLE 10: PIN 1. DRAIN

SOURCE GATE

#### **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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