MMBFJ175LT1

Preferred Device

JFET Chopper

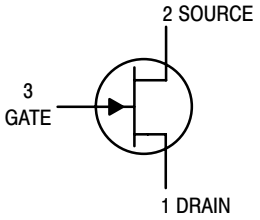
P−Channel − Depletion

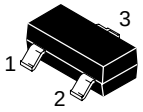
ON Semiconductor®

http://onsemi.com

Features

- Pb−Free Package is Available





SOT−23 (TO−236)
CASE 318
STYLE 10

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain−Gate Voltage	V_{DG}	25	V
Reverse Gate−Source Voltage	$V_{GS(r)}$	−25	V

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR−5 Board, (Note 1) T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	556	°C/W
Junction and Storage Temperature	T_J, T_{stg}	−55 to +150	°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.

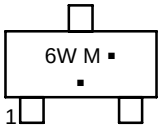
1. FR−5 = 1.0 x 0.75 x 0.062 in.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Gate−Source Breakdown Voltage (V_{DS} = 0, I_D = 1.0 μA)		$V_{(BR)GSS}$	30	−	V
Gate Reverse Current (V_{DS} = 0 V, V_{GS} = 20 V)		I_{GSS}	−	1.0	nA
Gate−Source Cutoff Voltage (V_{DS} = 15, I_D = 10 nA)		$V_{GS(OFF)}$	3.0	6.0	V
ON CHARACTERISTICS					
Zero Gate−Voltage Drain Current (Note 2) (V_{GS} = 0, V_{DS} = 15 V)		I_{DSS}	7.0	60	mA
Drain Cutoff Current (V_{DS} = 15 V, V_{GS} = 10 V)		$I_{D(off)}$	−	1.0	nA
Drain Source On Resistance (I_D = 500 μA)		$r_{DS(on)}$	−	125	Ω
Input Capacitance	V_{DS} = 0, V_{GS} = 10V f = 1.0 MHz	C_{iss}	−	11	pF
Reverse Transfer Capacitance		C_{rss}	−	5.5	

2. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

MARKING DIAGRAM



6W = Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
MMBFJ175LT1	SOT−23	3,000 / Tape & Reel
MMBFJ175LT1G	SOT−23 (Pb−Free)	3,000 / Tape & Reel

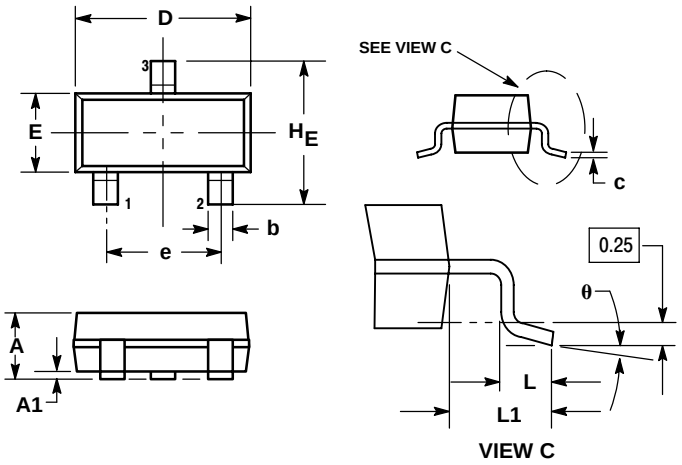
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

MMBFJ175LT1

PACKAGE DIMENSIONS

SOT−23 (TO−236)
CASE 318−08
ISSUE AN

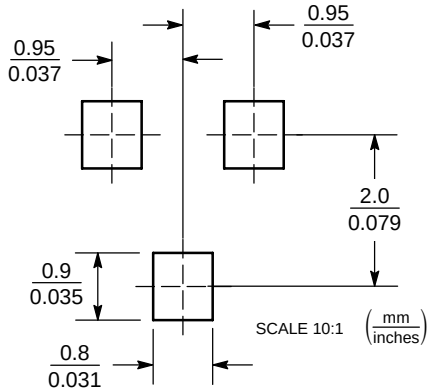


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318−01 THRU −07 AND −09 OBSOLETE, NEW STANDARD 318−08.

	MILLIMETERS			INCHES		
DIM	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	0.10	0.20	0.30	0.004	0.008	0.012
L1	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 10:
PIN 1. DRAIN
2. SOURCE
3. 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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 61312, Phoenix, Arizona 85082−1312 USA
Phone: 480−829−7710 or 800−344−3860 Toll Free USA/Canada
Fax: 480−829−7709 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada

Japan: ON Semiconductor, Japan Customer Focus Center
2−9−1 Kamimeguro, Meguro−ku, Tokyo, Japan 153−0051
Phone: 81−3−5773−3850

ON Semiconductor Website: http://onsemi.com

Order Literature: http://www.onsemi.com/litorder

For additional information, please contact your local Sales Representative.