



# THE DATASHEET OF MSD6100



# MSD6100

## Dual Switching Diode Common Cathode

### Features

- Pb-Free Packages are Available\*

### MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	100	Vdc
Recurrent Peak Forward Current	$I_F$	200	mAdc
Peak Forward Surge Current (Pulse Width = 10 $\mu$ sec)	$I_{FM(surge)}$	500	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ (Note 1) Derate above = $25^\circ\text{C}$	$P_D$	625 5.0	mW mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range (Note 1)	$T_J, T_{stg}$	-55 to +135	$^\circ\text{C}$

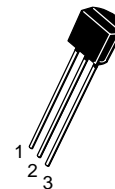
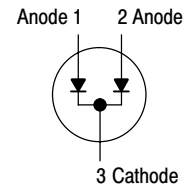
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

- Continuous package improvements have enhanced these guaranteed Maximum Ratings as follows:  $P_D = 1.0\text{ W}$  @  $T_C = 25^\circ\text{C}$ , Derate above  $25^\circ\text{C}$  -  $8.0\text{ mW}/^\circ\text{C}$ ,  $T_J = -65$  to  $+150^\circ\text{C}$ ,  $\theta_{JC} = 125^\circ\text{C}/\text{W}$ .



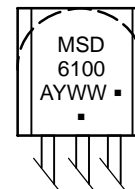
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TO-92  
CASE 29-11  
STYLE 3

### MARKING DIAGRAM



MSD6100 = Device Code  
A = Assembly Location  
Y = Year  
WW = Work Week  
▪ = Pb-Free Package  
(Note: Microdot may be in either location)

### ORDERING INFORMATION

Device	Package	Shipping
MSD6100	TO-92	5000 Units / Box
MSD6100G	TO-92 (Pb-Free)	5000 Units / Box
MSD6100RLRA	TO-92	2000/Tape & Reel
MSD6100RLRAG	TO-92 (Pb-Free)	2000/Tape & Reel

\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

# MSD6100

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

Characteristic	Symbol	Min	Max	Unit
Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	100	–	Vdc
Reverse Current ( $V_R = 100 \text{Vdc}$ ) ( $V_R = 50 \text{Vdc}$ ) ( $V_R = 50 \text{Vdc}, T_A = 125^\circ\text{C}$ )	$I_R$	– – –	5.0 0.1 50	$\mu\text{Adc}$
Forward Voltage ( $I_F = 1.0 \text{mA}$ ) ( $I_F = 10 \text{mA}$ ) ( $I_F = 100 \text{mA}$ )	$V_F$	0.55 0.67 0.75	0.7 0.82 1.1	Vdc
Capacitance ( $V_R = 0$ )	C	–	1.5	pF
Reverse Recovery Time ( $I_F = I_R = 10 \text{mA}$ , $V_R = 5.0 \text{Vdc}$ , $i_{rr} = 1.0 \text{mA}$ )	$t_{rr}$	–	4.0	ns

## TYPICAL CHARACTERISTICS

### Curves Applicable to Each Anode

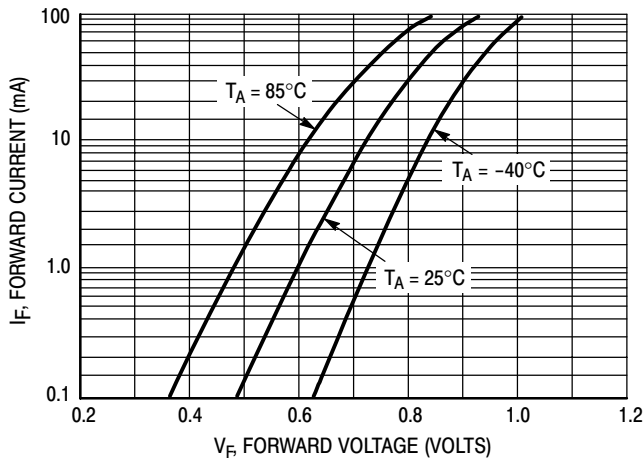


Figure 1. Forward Voltage

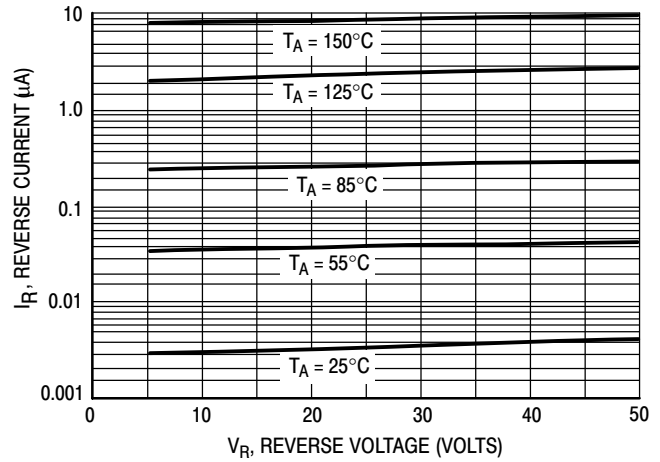


Figure 2. Leakage Current

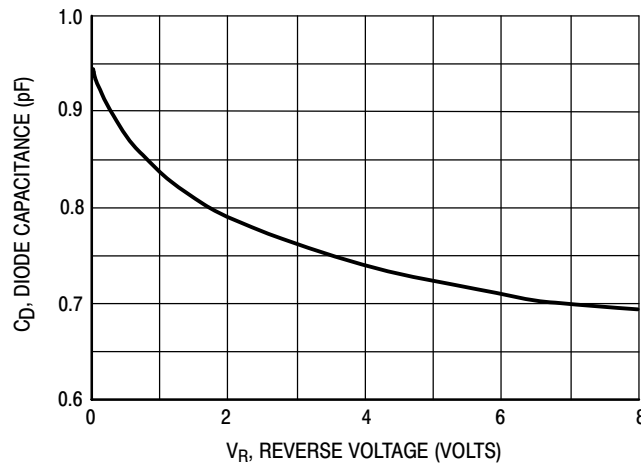
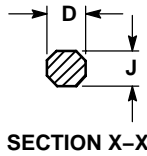
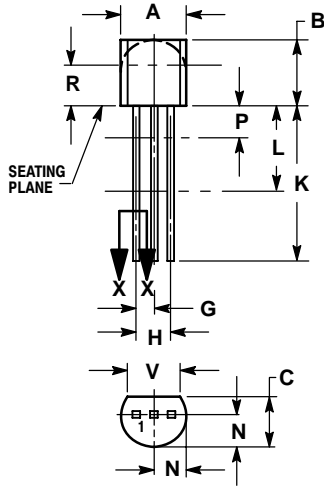


Figure 3. Capacitance

# MSD6100

## PACKAGE DIMENSIONS

TO-92 (TO-226)  
CASE 29-11  
ISSUE AL



**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

**STYLE 3:**

- PIN 1. ANODE
- ANODE
- CATHODE

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