

# DST10100S-A Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	DST10100S-A-DG
Manufacturer	<a href="#">Littelfuse Inc.</a>
Manufacturer Product Number	DST10100S-A
Description	DIODE SCHOTTKY 100V 10A TO277B
Detailed Description	Diode 100 V 10A Surface Mount TO-277B

This model DST10100S-A is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

 [Request a Quote](#)

 [Datasheet Search](#)



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

DST10100S-A

Series:

-

Technology:

Schottky

Current - Average Rectified (Io):

10A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Capacitance @ Vr, F:

-

Qualification:

AEC-Q101

Package / Case:

TO-277, 3-PowerDFN

Operating Temperature - Junction:

-55°C ~ 150°C

Manufacturer:

Littelfuse Inc.

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

100 V

Voltage - Forward (Vf) (Max) @ If:

700 mV @ 10 A

Current - Reverse Leakage @ Vr:

250 µA @ 100 V

Grade:

Automotive

Mounting Type:

Surface Mount

Supplier Device Package:

TO-277B

Base Product Number:

DST10100

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

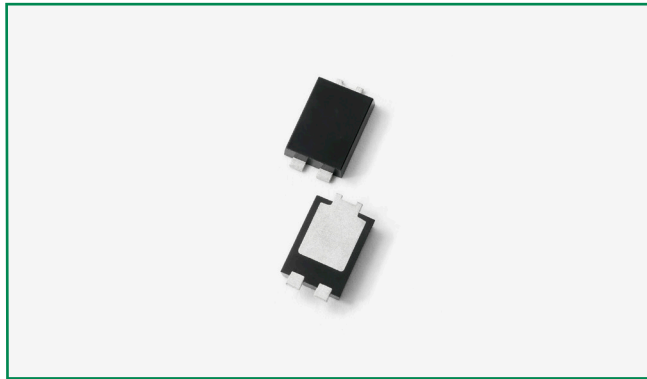
Moisture Sensitivity Level (MSL):

1 (Unlimited)

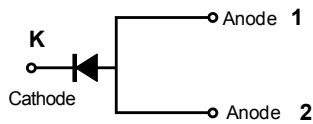
ECCN:

EAR99

# DST10100S-A



### Pin out



### Description

Littelfuse DST series Ultra Low  $V_f$  Schottky Barrier Rectifier is designed to meet the general requirements of Automotive applications by providing high temperature, low leakage and lower  $V_f$  products.

It is suitable for high frequency switching mode power supply, free-wheeling diodes and polarity protection diodes.

### Features

- Hi reliability application and automotive grade AEC-Q101 qualified.
- Ultra low forward voltage drop
- High frequency operation
- MSL: Level 1 - unlimited
- High junction temperature capability
- Trench MOS Schottky technology
- Single die in TO-277B Package
- Pb-free E3 means 2nd level interconnect is Pb-free and the terminal finish material is tin(Sn) (IPC/ JEDEC J-STD-609A.01)

### Applications

- Switching mode power supply
- DC/DC converters
- Free-Wheeling diodes
- Polarity Protection Diodes

### Maximum Ratings

Parameters	Symbol	Test Conditions	Max	Unit
Peak Inverse Voltage	$V_{RWM}$	-	100	V
Single Peak Reverse Voltage	$V_{RSM}$	-	105	V
Average Forward Current*	$I_{F(AV)}$	50% duty cycle @ $T_L = 125^\circ\text{C}$ rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge	$I_{FSM}$	8.3 ms, half Sine pulse	150	A

\* Mounted on 30 mm x 30 mm pad areas aluminum PCB

### Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop *	$V_{F1}$	@2A, Pulse, $T_J = -40^\circ\text{C}$	0.60	V
	$V_{F2}$	@5A, Pulse, $T_J = -40^\circ\text{C}$	0.65	
	$V_{F3}$	@10A, Pulse, $T_J = -40^\circ\text{C}$	0.70	
	$V_{F4}$	@2A, Pulse, $T_J = 25^\circ\text{C}$	0.50	
	$V_{F5}$	@5A, Pulse, $T_J = 25^\circ\text{C}$	0.60	
	$V_{F6}$	@10A, Pulse, $T_J = 25^\circ\text{C}$	0.70	
	$V_{F7}$	@2A, Pulse, $T_J = 125^\circ\text{C}$	0.40	
	$V_{F8}$	@5A, Pulse, $T_J = 125^\circ\text{C}$	0.55	
	$V_{F9}$	@10A, Pulse, $T_J = 125^\circ\text{C}$	0.65	
Reverse Current *	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	0.25	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	36	

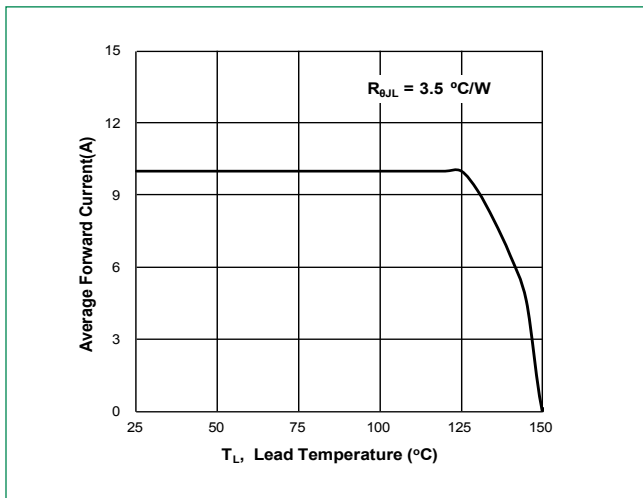
\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle < 2%

**Thermal-Mechanical Specifications**

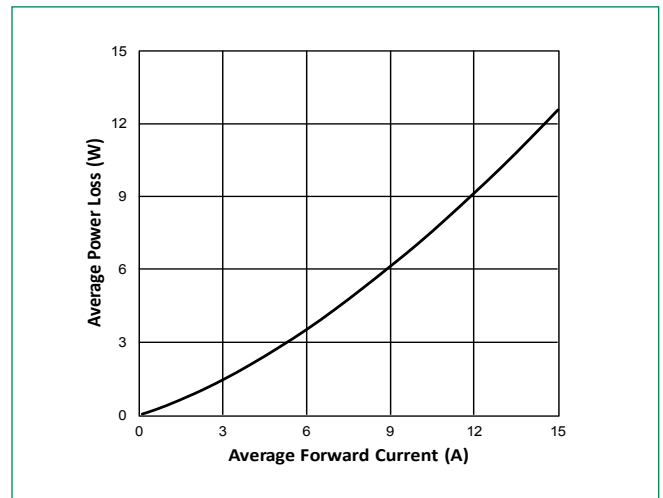
Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_J$		-55 to +150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C
Maximum Thermal Resistance Junction to Ambient	$R_{thJA}$	DC operation	75	°C/W
Maximum Thermal Resistance Junction to Lead	$R_{thJL}^*$		3.5	°C/W
Approximate Weight	wt		0.08	g
Case Style		TO-277B		

\*Lead temperature monitored at the cathode pin

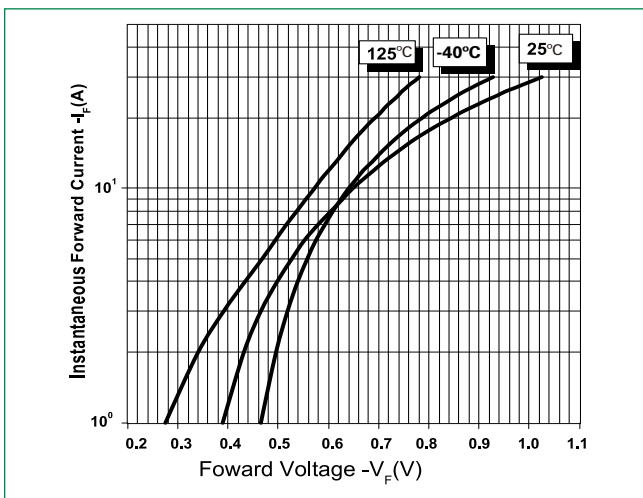
**Figure 1: Forward Current Derating Curve**



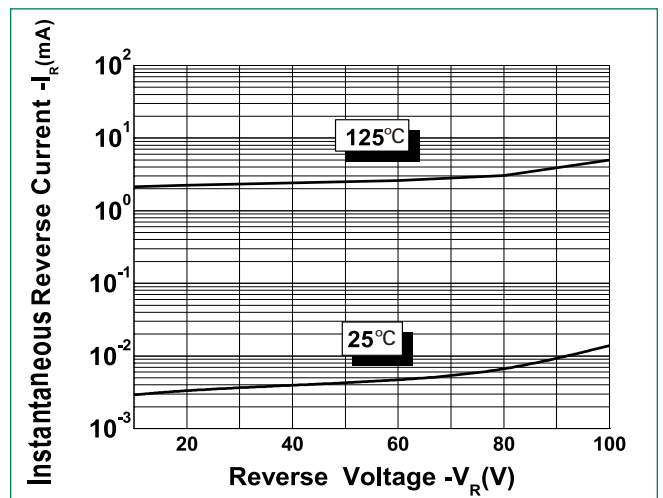
**Figure 2: Forward Power Loss Characteristics**



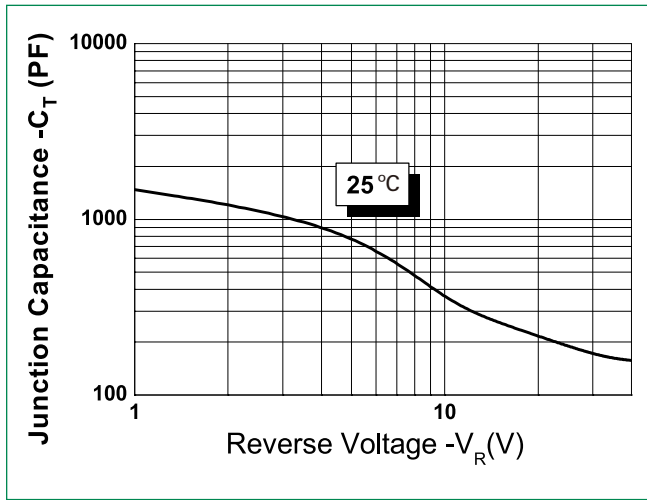
**Figure 3: Typical Forward Characteristics**



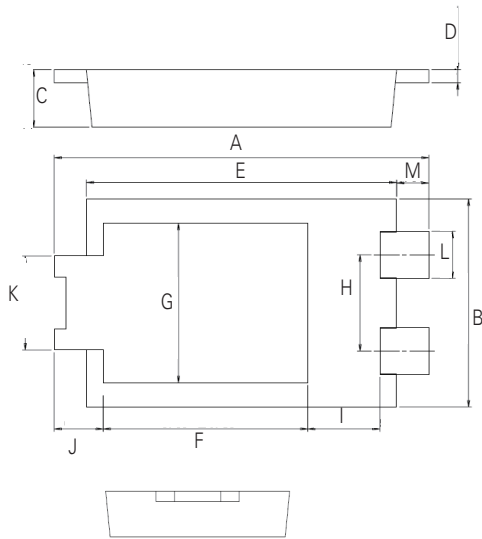
**Figure 4: Typical Reverse Characteristics**



**Figure 5: Typical Junction Capacitance**

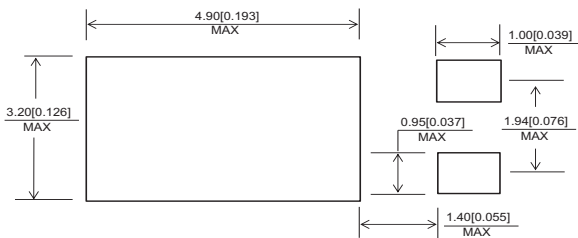


**Dimensions-TO-277B**

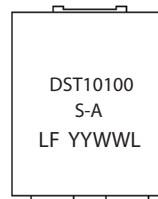


Symbol	Millimeters		
	Min	Typ	Max
A	6.30	6.50	6.70
B	3.88	3.98	4.08
C	0.95	1.10	1.25
D	0.20	0.25	0.30
E	5.28	5.38	5.48
F	3.40	3.55	3.70
G	2.90	3.05	3.20
H	1.74	1.84	1.94
I	1.10	1.25	1.40
J	-	0.85	-
K	1.70	1.80	1.90
L	0.85	0.90	0.95
M	-	0.56	-

**Mounting Pad Layout**



**Part Numbering and Marking System**

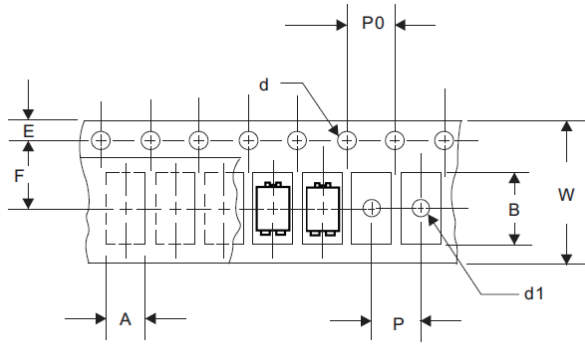


- DST = Device Type
- 10 = Forward Current (10A)
- 100 = Reverse Voltage (100V)
- S = Package Type
- A = AEC-Q101 qualified device
- LF = Littelfuse
- YY = Year
- WW = Week
- L = Lot Number

**Packing Options**

Part Number	Marking	Packing Mode	M.O.Q
DST10100S-A	DST10100S-A	5000pcs / Reel	5000

**Carrier Tape & Reel Specification**



Symbol	Millimeters	
	Min	Max
<b>A</b>	4.28	4.48
<b>B</b>	6.80	7.00
<b>d</b>	1.40	1.60
<b>d1</b>	-	1.50
<b>E</b>	1.65	1.85
<b>F</b>	7.40	7.60
<b>P</b>	5.40	5.60
<b>P0</b>	3.90	4.10
<b>W</b>	11.70	12.30

## OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.