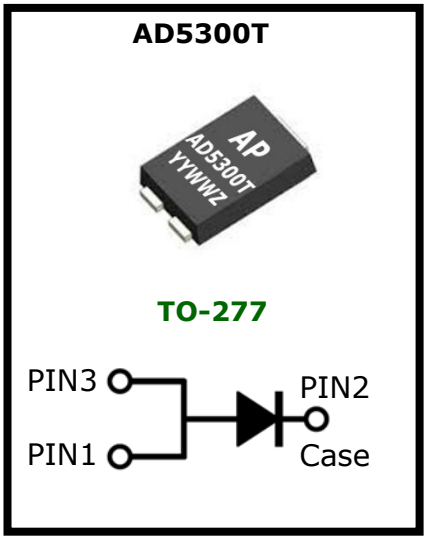
300V 5A Ultra Low VF Schottky

Characteristics Summary

Characteristics	Values	Units
IF(AV)	5	A
V_{RRM}	300	V
V_F @ 2.5A, T_J = 25℃	0.72	V, typ.
T_J, Operating Junction Temperature	-40 to +150	℃



Features

- Ultra Low Forward Voltage (VF) Drop Low Power Losses
- Low Leakage Current at high temperature.
- Reliable application for various circumstances.
- 150℃ Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications, high frequency converters, freewheeling diodes.

Maximum Ratings Characteristics

(TA = 25℃ unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	300	V
Working Peak Reverse Voltage	V_{RWM}		V
Peak Repetitive Reverse Voltage	V_{RRM}		V
Average Rectified Forward Current (Rated VR-20Khz Square Wave) – 50% duty cycle	I_D	5	A
Peak Forward Surge Current – 1/2 60hz	I_{FSM}	100	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	1	A
Typical Thermal Resistance	$R\theta_{JC}$	68	℃ / W
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	-40 to +150	℃
Storage Junction Temperature	T_{STG}	-40 to +150	

Electrical Characteristics

(TA = 25℃ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 2.5 A	TJ = 25℃	VF*	0.72	0.74	V
	IF = 5 A			0.77	0.80	
	IF = 2.5 A	TJ = 125℃		0.55		
	IF = 5 A			0.65		
Instantaneous Reverse Current	VR = 300V	TJ = 25℃	IR*		10	uA
		TJ = 125℃			10	mA
Junction Capacitance	V_R = 5V, f = 1MHz		C_J	321		pF
* Pulse width < 300 uS, Duty cycle < 2%						

Characteristics Curves

(TA = 25℃ unless otherwise specified)

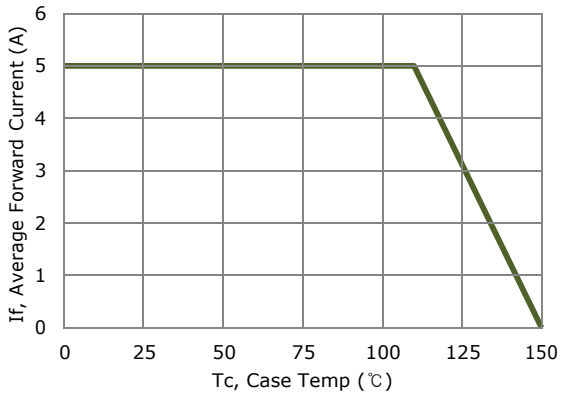


Figure 1 : Current Derating, Case

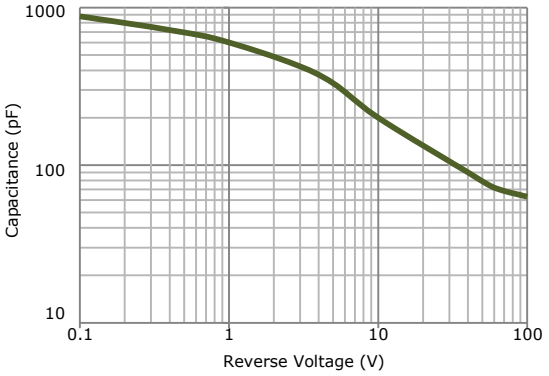


Figure 2 : Typical Junction Capacitance

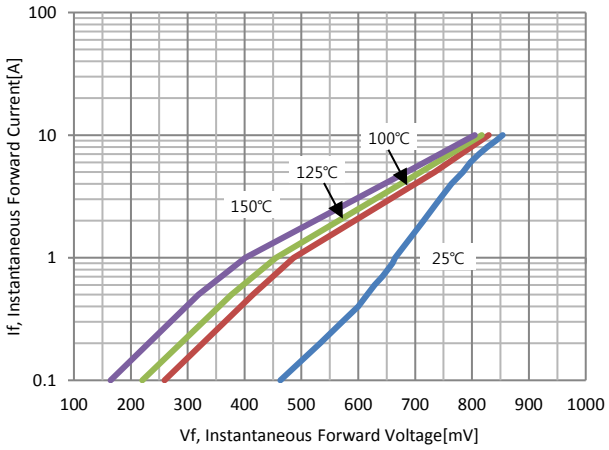


Figure 3 : Typical Forward Voltage

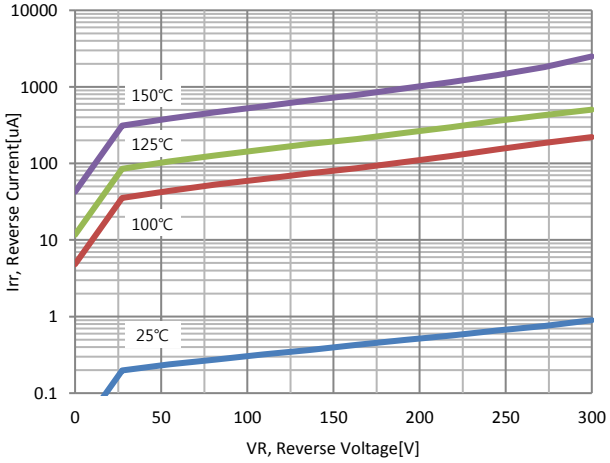


Figure 4 : Typical Reverse Current

Ordering Information

Part No	Package	Packing	Finish	Halogen	Packing Unit
AD5300T	TO-277	Tape & Reel	Sn	Free	5,000ea

Marking Layout

1ST Line : Company logo

2nd Line : Device name + PKG CODE

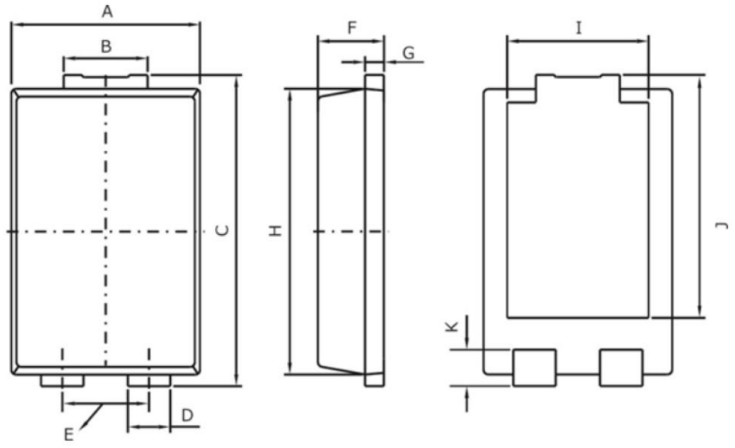
- **T : TO-277 PKG code**

3rd Line : Date code

- **YY : Last two digit of calendar year**
- **WW : Work week calendar**

Package Dimensions

TO-277



Dim.	Min.	Max.
A	3.90	4.10
B	1.74	1.94
C	6.40	6.60
D	0.80	1.05
E	1.84 typ.	
F	1.00	1.20
G	0.35	0.45
H	5.30	5.45
I	3.05 typ.	
J	4.40 typ.	
K	0.60	0.95
All Dimensions in millimeter		

Revision History

No	Date	Contents
0	2018-06-20	Initial Brief Datasheet Release
1	2018-11-23	Junction Capacitance Updated

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