



# TO-277 Plastic-Encapsulate Diodes

## SP5300L Schottky Rectifier Diode

### Features

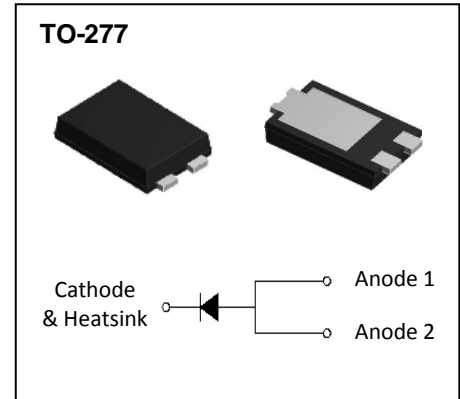
- $I_{F(AV)}$  5A
- $V_{RRM}$  300V
- High surge current capability
- Low peak forward voltage

### Applications

- Rectifier

### Marking

- SP5300L:SP5300L



### Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	SP5300L
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		300
Maximum RMS Voltage	$V_{RMS}$	V		210
Maximum DC blocking Voltage	$V_{DC}$	V		300
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, TL(Fig.1)	5
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	100
Junction Temperature	$T_J$	$^\circ\text{C}$		-55 ~ +150
Storage Temperature	$T_{STG}$	$^\circ\text{C}$		-55 ~ +150

### Electrical Characteristics (T=25°C Unless otherwise specified)

Item	Symbol	Unit	Test Condition	SP5300L	
Peak Forward Voltage	$V_F$	V	$I_F = 5.0A$	$T_a = 25^\circ\text{C}$	0.94(TYP) 0.96(MAX)
				$T_a = 125^\circ\text{C}$	0.75(TYP) 0.78(MAX)
Peak Reverse Current	$I_{RRM1}$	mA	$V_{RM} = V_{RRM}$	$T_a = 25^\circ\text{C}$	0.01(TYP) 0.03(MAX)
	$I_{RRM2}$			$T_a = 125^\circ\text{C}$	5(TYP) 10(MAX)
Thermal Resistance(Typical)	$R_{\theta J-L}$	$^\circ\text{C/W}$	Between junction and terminal	15	
Typical junction capacitance	$C_J$	pF	$V_R = 4.0\text{V}$ , $f = 1\text{MHz}$	160	

### Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

# Typical Characteristics

FIG. 1: Forward Output Current Derating Curve

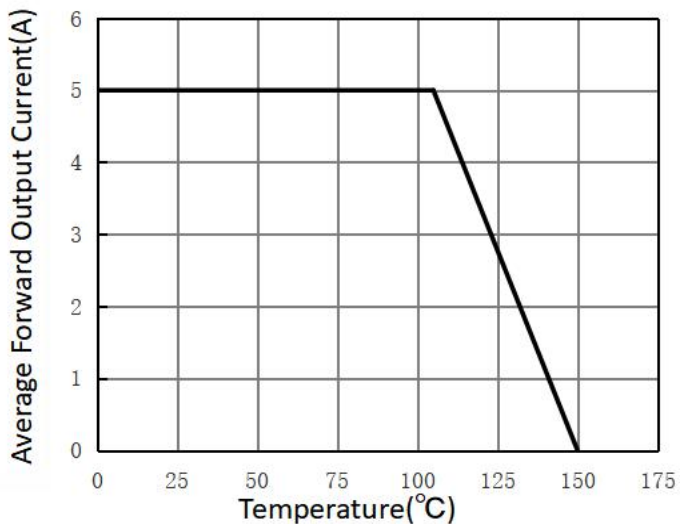


FIG.2: Maximum Non-Repetitive Peak Forward Surge Current

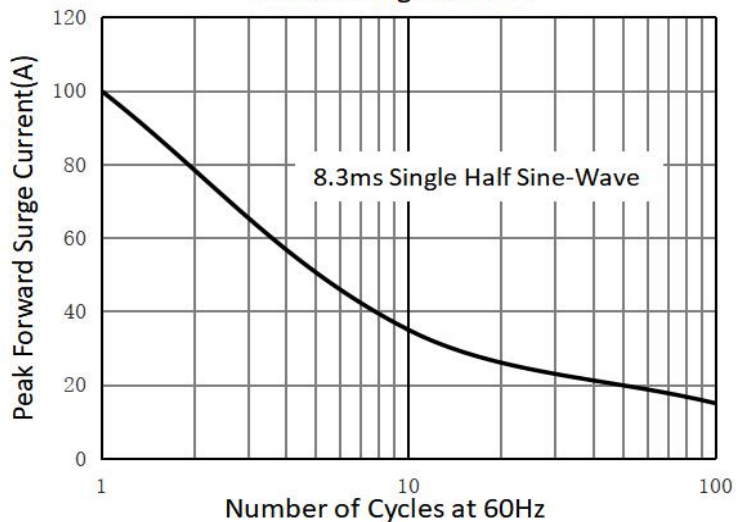


FIG.3: Typical Instantaneous Forward Characteristics

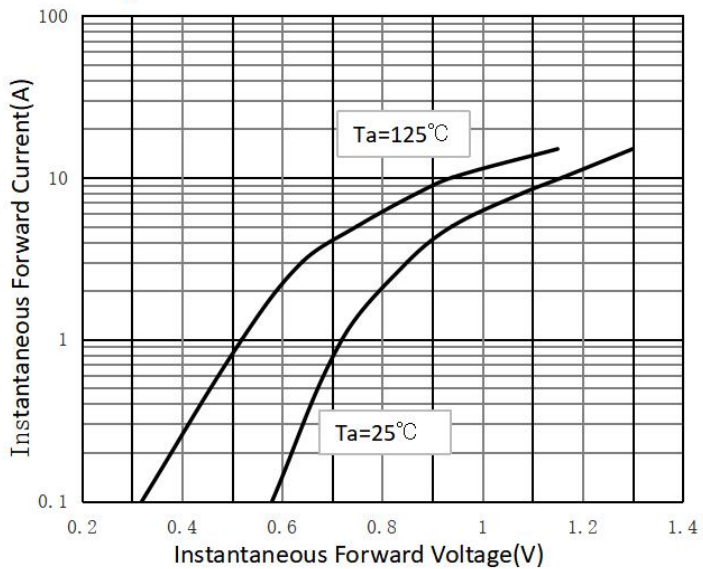
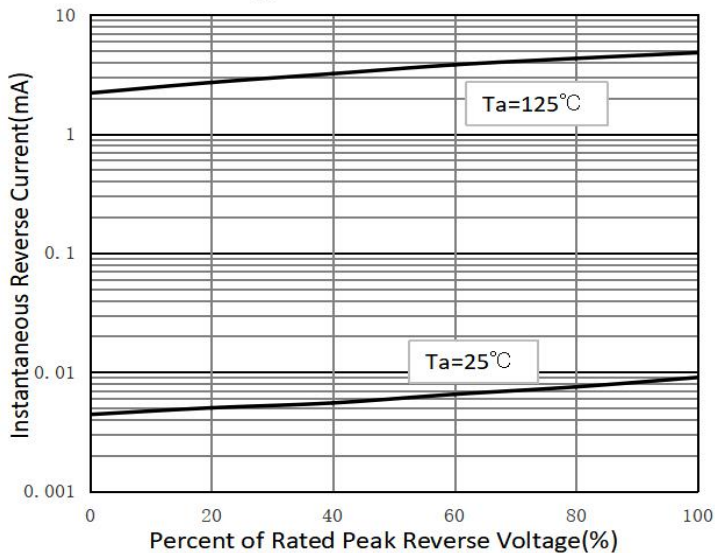
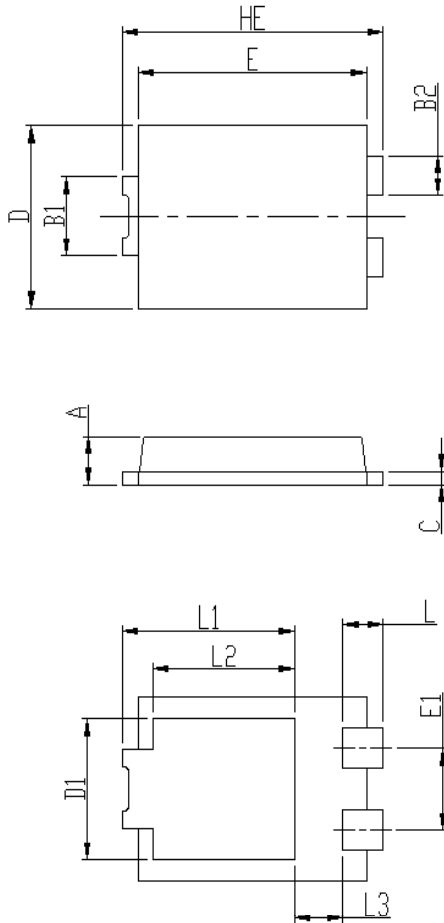


FIG.4: Typical Reverse Characteristics

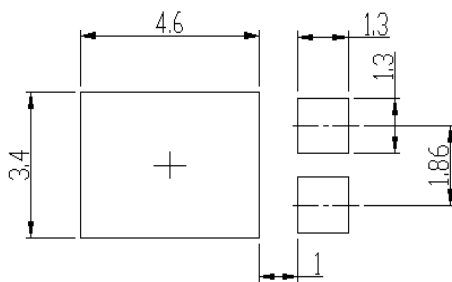


## TO-277 Package Outline Dimensions



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
HE	6.4	6.6	0.252	0.260
E	5.6	5.8	0.220	0.228
D	4.1	4.3	0.161	0.169
B1	1.7	1.9	0.067	0.075
B2	0.8	1	0.031	0.039
A	1.05	1.2	0.041	0.047
C	0.3	0.4	0.012	0.016
L	0.85	1.1	0.033	0.043
L1	4.2	4.4	0.165	0.173
L2	3.52 Typ.		0.139 Typ.	
L3	1.1	1.4	0.043	0.055
D1	3	3.3	0.118	0.130
E1	1.86 Typ.		0.073 Typ.	

## TO-277 Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.