

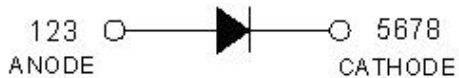
## ST30100DJF SCHOTTKY RECTIFIER



### Features

- Ultralow forward voltage drop
- Very small conduction losses
- Negligible switching losses
- Extremely fast switching
- Low thermal resistance
- Avalanche capability specified
- Thin package: 1 mm
- Trench MOS Schottky technology
- Terminals finish: Tin Lead-free plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	100	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Rectified Forward Current	$I_{F(AV)}$	$T_C=78^{\circ}C$ , In DC	30	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	300	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 30A, Pulse, $T_J = 25^{\circ}C$	0.89	0.96	V
	$V_{F2}$	@ 30A, Pulse, $T_J = 125^{\circ}C$	0.71	0.73	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^{\circ}C$	0.01	1	mA
Reverse Current*	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^{\circ}C$	7.4	75	mA
Junction Capacitance	$C_T$	@ $V_R = 5V$ , $T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$	650	-	pF

\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to + 150	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-	-55 to + 150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	2.6	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	0.095	g

**Ratings and Characteristics Curves**

Figure 1 Typical Forward Characteristics

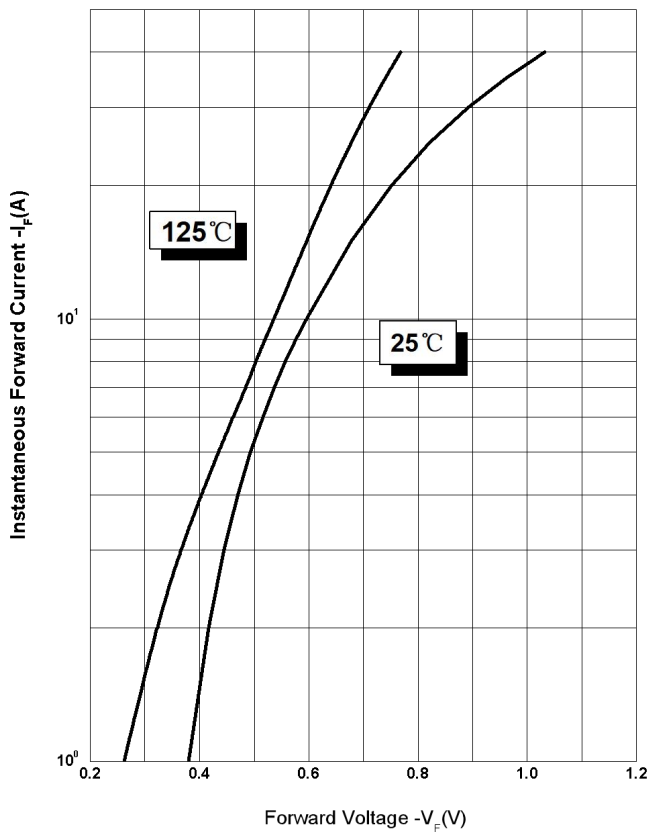


Figure 2 Typical Reverse Characteristics

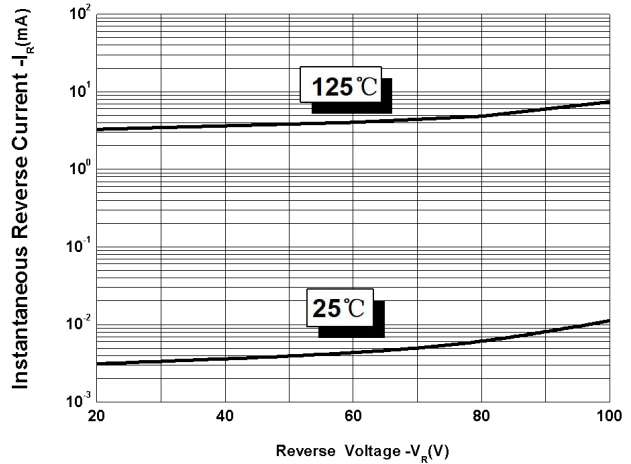
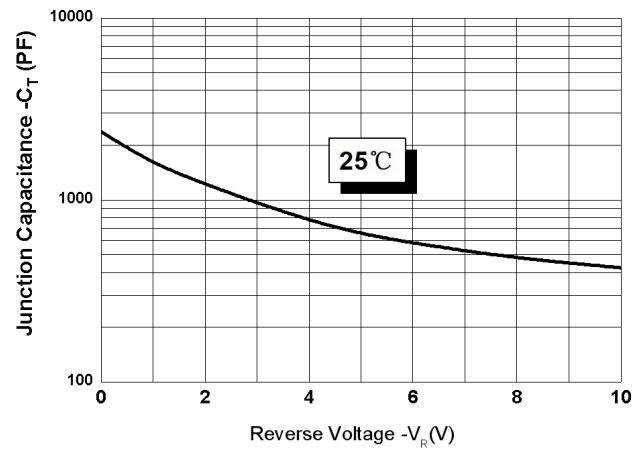
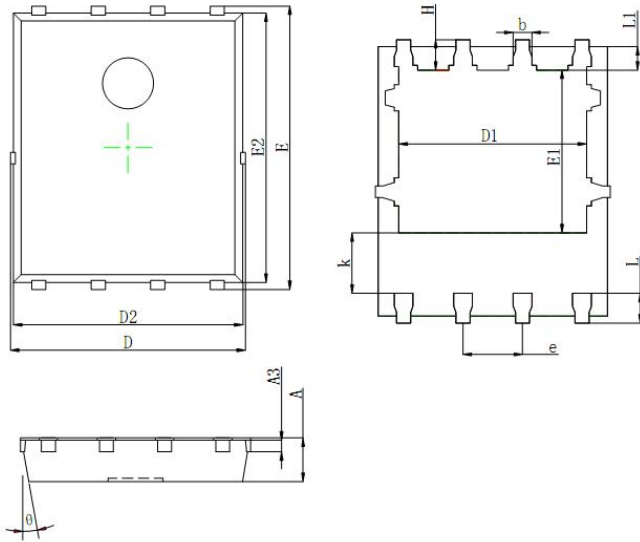
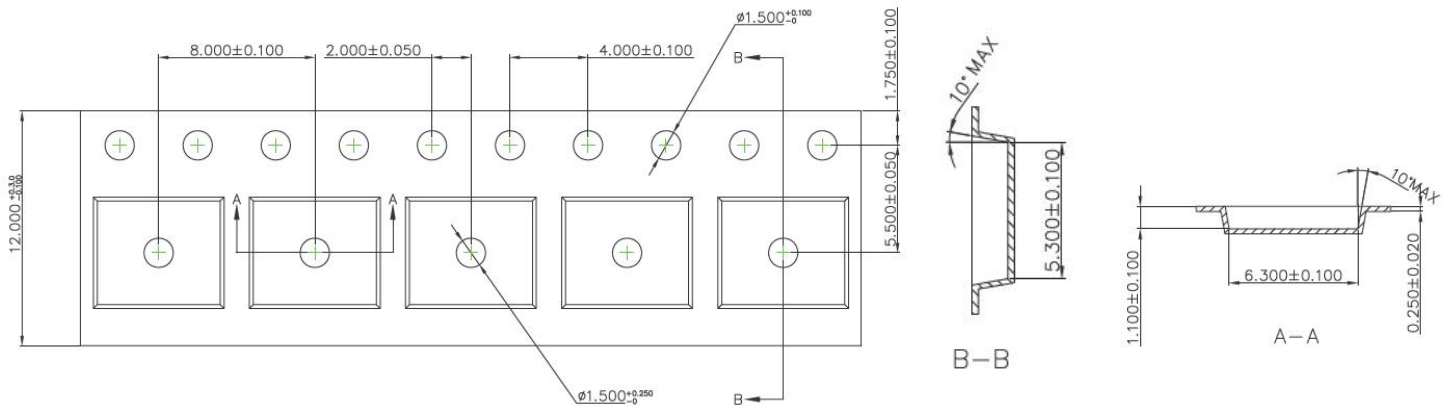


Figure 3 Typical Junction Capacitance



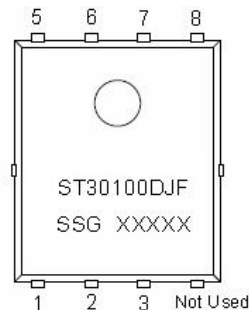
**Mechanical Dimensions PDFNWB5×6-8L**


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254 REF.		0.010 REF.	
D	4.944	5.096	0.195	0.201
E	5.974	5.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270 TYP.		0.050 TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
Θ	10°	12°	10°	12°

**Carrier Tape Specification PDFNWB5×6-8L(mm)**

**Ordering Information**

Device	Package	Shipping
ST30100DJF	PDFNWB5×6-8L (Pb-Free)	3000 pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


Where XXXXX is YYWWL

- ST = Device Type
- 30 = Forward Current (30A)
- 100 = Reverse Voltage (100V)
- DJF = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL-94V-0

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