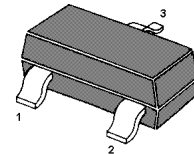
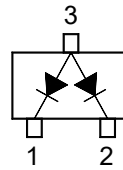


# 1SS181

## Silicon Epitaxial Planar Switching Diode

### Features

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance



SOT-23 Plastic Package

### Applications

- Ultra high speed switching application

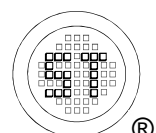
### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Maximum Peak Reverse Voltage	$V_{RM}$	85	V
Reverse Voltage	$V_R$	80	V
Average Rectified Forward Current	$I_{F(AV)}$	100	mA
Maximum Peak Forward Current	$I_{FM}$	300	mA
Non-repetitive Peak Forward Surge Current (10 ms)	$I_{FSM}$	2	A
Power Dissipation	$P_{tot}$	350	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	357	$^\circ\text{C/W}$

<sup>1)</sup> Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

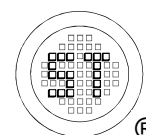


# 1SS181

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## Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 10\text{ }\mu\text{A}$	$V_{BR(R)}$	80	-	V
Forward Voltage at $I_F = 100\text{ mA}$	$V_F$	-	1.2	V
Reverse Current at $V_R = 30\text{ V}$ at $V_R = 80\text{ V}$	$I_R$	- -	0.1 0.5	$\mu\text{A}$
Total Capacitance at $V_R = 0$ , $f = 1\text{ MHz}$	$C_T$	-	4	pF
Reverse Recovery Time at $I_F = 10\text{ mA}$ , $I_{rr} = 0.1 \times I_R$ , $V_R = 6\text{ V}$ , $R_L = 100\text{ }\Omega$	$t_{rr}$	-	4	ns



## Electrical Characteristics Curves

Fig 1. Power Derating Curve

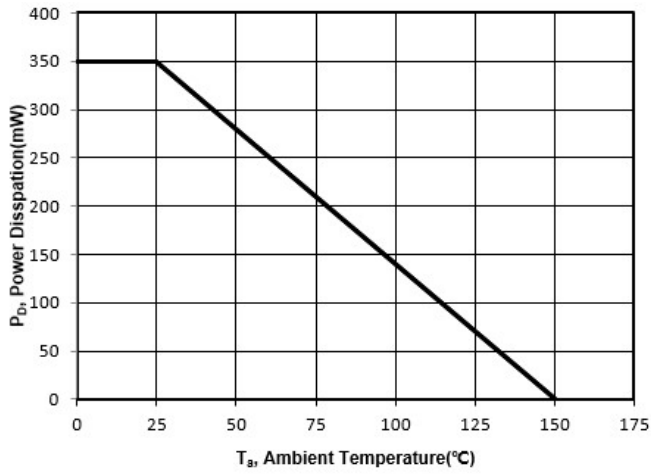


Fig 2. Total Capacitance vs. Reverse Voltage

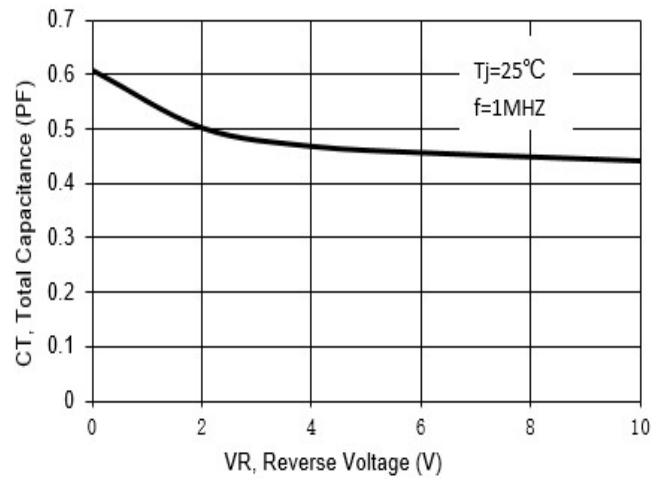


Fig 3. Reverse Current vs. Reverse Voltage

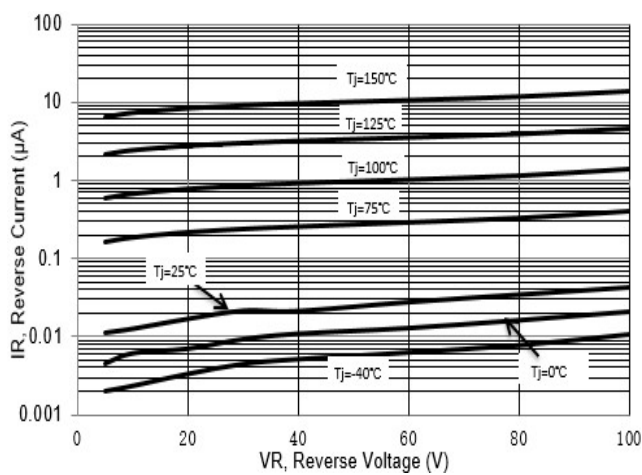
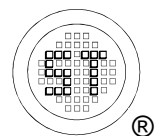
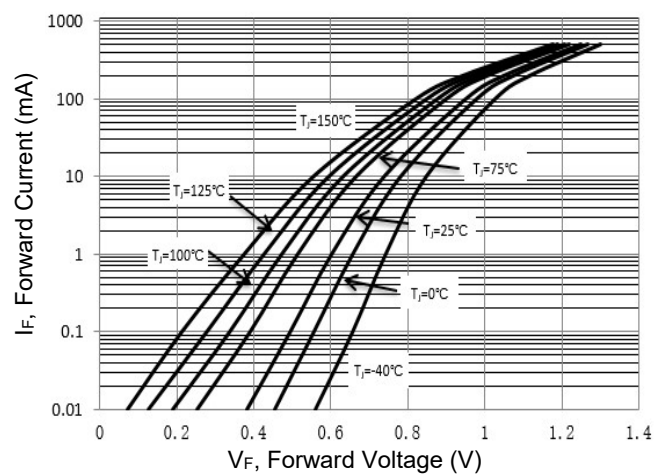


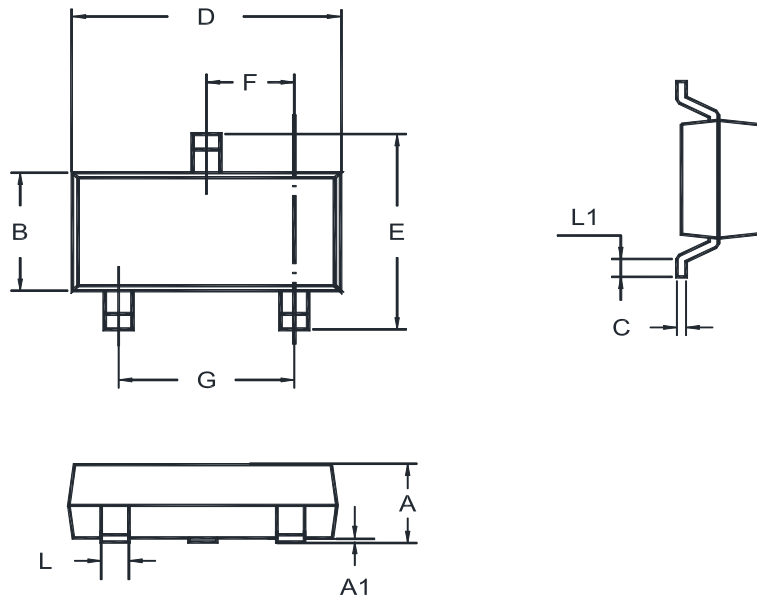
Fig 4. Forward Characteristics



# 1SS181

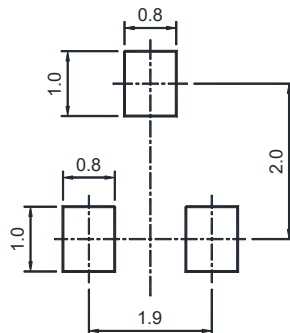
## Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20	0.100	1.40	0.19	3.04	2.6	1.02	2.04	0.51	0.2
	0.89	0.013	1.20	0.08	2.80	2.2	0.89	1.78	0.37	MIN

## Recommended Soldering Footprint

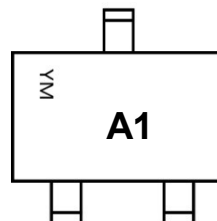


## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

## Marking information

- "A1" = Part No.
- "YM" = Date Code Marking
- "Y" = Year
- "M" = Month



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