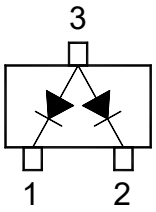
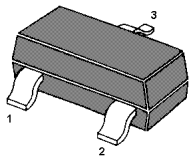
Silicon Epitaxial Planar Switching Diode

Features

- AEC-Q101 Qualified
- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance
- Halogen and Antimony Free(HAF), RoHS compliant





1. Cathode 2. Cathode 3. Anode
SOT-23 Plastic Package

Applications

- Ultra high speed switching application

Absolute Maximum Ratings (T_a = 25℃)

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	at t = 1 μs at t = 1 s	I_{FSM}	4 0.5	A
Power Dissipation [1)]		P_D	350	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1)]	$R_{\theta JA}$	357	℃/W

[1)] Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

Characteristics at T_a = 25℃

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

Electrical Characteristics Curves

Fig 1. Power Derating Curve

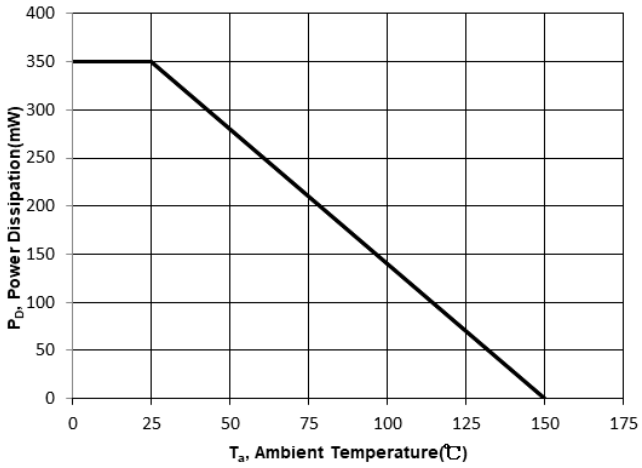


Fig 2. Total Capacitance vs. Reverse Voltage

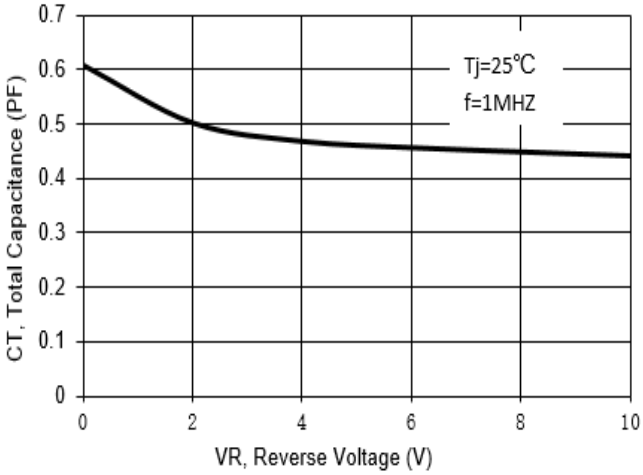


Fig 3. Reverse Current vs. Reverse Voltage

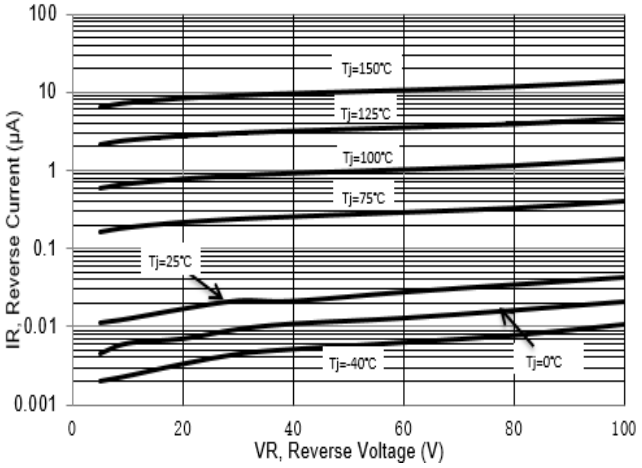
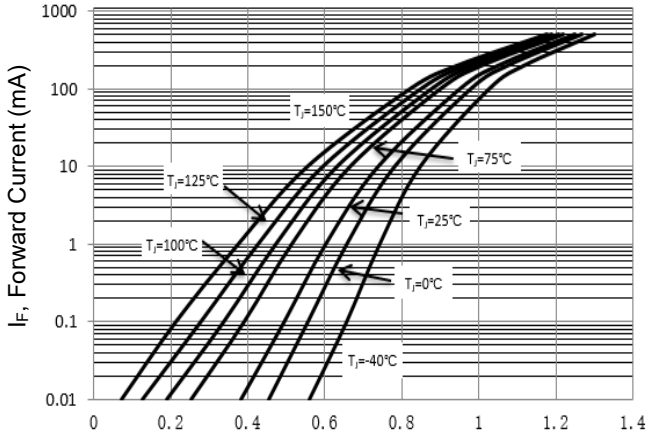
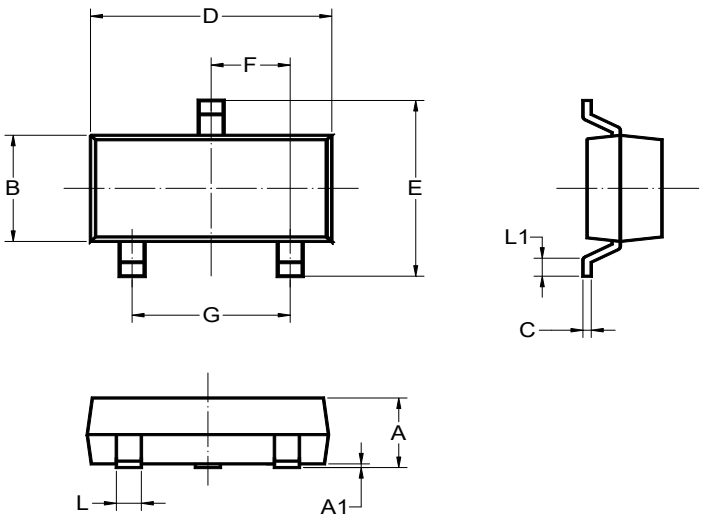


Fig 4. Forward Characteristics

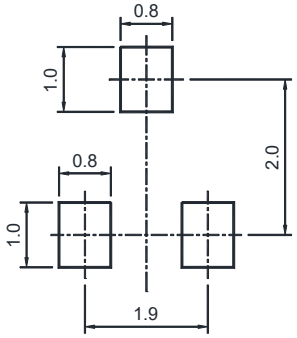


Package Outline (Dimensions in mm) SOT-23



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

Recommended Soldering Footprint

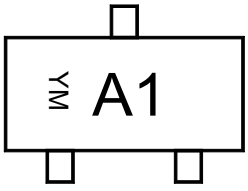


Packing information

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
Font type: Arial



Disclaimer: Our company reserve the right to make modifications, enhancements, improvements, corrections or other changes to improve product design, functions and reliability, anytime without notice. Semtech Electronics Limited makes no warranties, representations or warranties regarding the suitability of its products for any particular purpose, and does not accept any liability arising from the application or use of any product or circuit such as: Apply to medical, military, aircraft, space or life support equipment and expressly waive any and all liability, including but not limited to special, consequential or collateral damage.