Technical Data
Data Sheet N1624, Rev.D

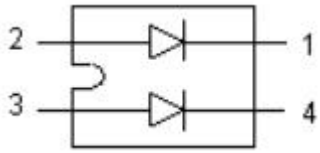
SK2S160-100 Power Schottky Rectifier

SOT-227

Features

- International standard package SOT-227
- Very low VF
- Extremely low switching losses
- Low I_{RM} -values
- Baseplate: Nickel plated; Terminals: Nickel 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

- Rectifiers in switch mode power Supplies(SMPS)
- Insulated package(V_{ISO}=2500V_{RMS})
- Free wheeling diode in low voltage Converters

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	100	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =105°C, rectangular wave form	80(Per Leg) 160(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I_{FSM}	8.3 ms, half Sine pulse	1000	A
Non-Repetitive Avalanche Energy(Per Leg)	E_{AS}	T_J=25℃,I_{AS}=12A,L=180μH non repetitive	16	mJ
Total Power Dissipation	P_{tot}	T_C=25℃	150	W
Repetitive Avalanche Current (Per Leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max.V_A=1.5×V_R typical	1.2	A

SMC DIODE SOLUTIONS

SK2S160-100

Technical Data
Data Sheet N1624, Rev.D

RoHS

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 80A, Pulse, T_J = 25 °C	0.80	0.84	V
	V_{F2}	@ 80A, Pulse, T_J = 125 °C	0.66	0.75	V
Reverse Current(Per Leg)*	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.0005	2	mA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	0.45	20	mA
Voltage Rate of Change	dv/dt	-	-	5000	V/μs

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

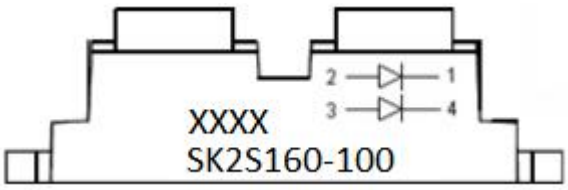
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-40 to +150	°C
Storage Temperature	T_{stg}	-	-40 to +150	°C
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{\theta JC}$	DC operation	0.9	°C/W
Thermal Resistance Junction to Case(Peg Device)	$R_{\theta JC}$	DC operation	0.5	°C/W
Mounting torque(M4)	M_D	-	1.1-1.5/9-13	Nm/ lb.in.
Terminal connection torque(M4)			1.1-1.5/9-13	
Typical Approximate Weight	wt	-	30	g

Ordering Information

Device	Package	Shipping
SK2S160-100	SOT-227 (Pb-Free)	36pcs /BULK

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 XXXX is YYWW

S = SMC's Power Module
K = SOT-227 Package
2 = Circuit Configuration
S = Schottky Rectifier
160 = Forward Current (160A)
100 = Reverse Voltage (100V)
YY = Year
WW = Week

Remark: marking is as above from data code 2036.

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

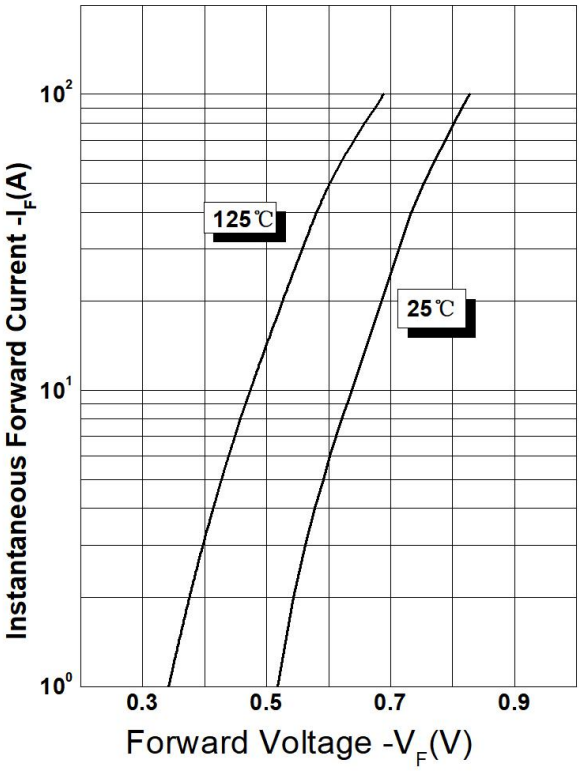


Figure 2
Typical Reverse Characteristics

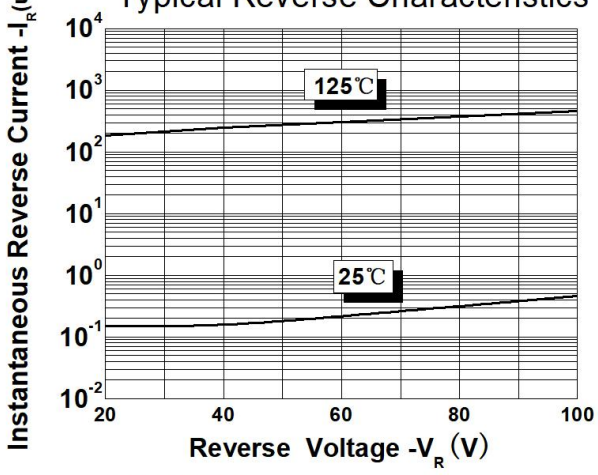
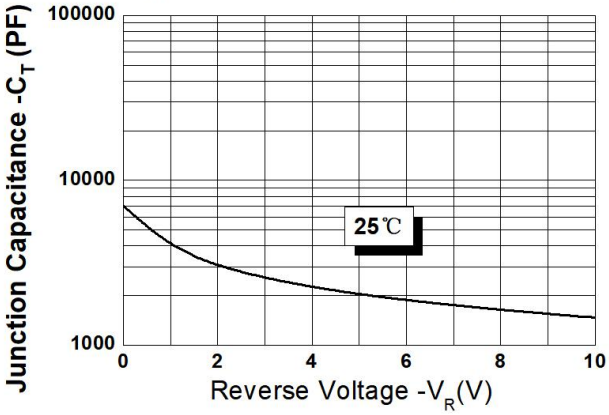
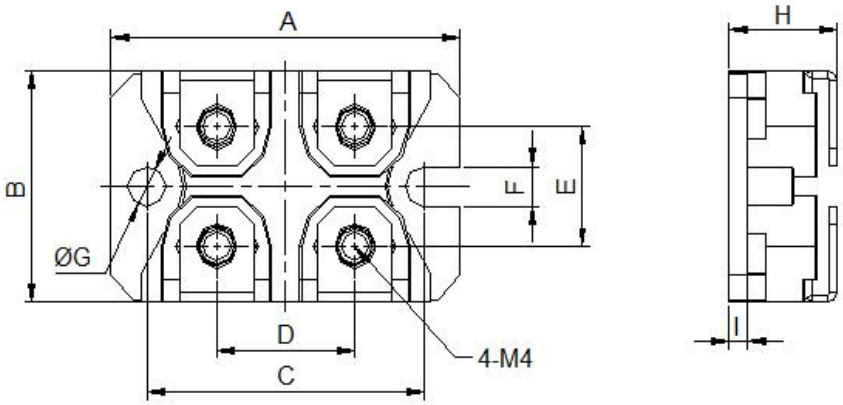


Figure 3
Typical Junction Capacitance



Technical Data
Data Sheet N1624, Rev.D

Mechanical Dimensions SOT-227



SYMBOL	Dimensions in millimeters	
	Min.	Max.
A	37.80	38.20
B	25.00	26.00
C	29.90	30.50
D	14.50	15.50
E	12.20	13.20
F	4.10	4.50
G	φ4.1	φ4.5
H	11.00	12.50
I	1.90	2.10

Technical Data
Data Sheet N1624, Rev.D

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