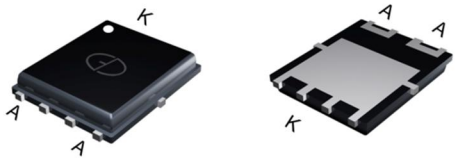
GOOD-ARK
SEMICONDUCTOR

SMURP460

Super Fast Recovery Rectifier
Reverse Voltage 600V Forward Current 4A

Features

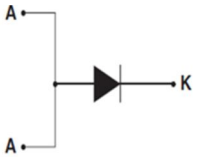
- FRED (Planar) wafer construction
- Super fast recovery time
- Low forward voltage drop, low power loss
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Power QFN5x6

Mechanical Data

- Case: Epoxy, Molded
- Weight: 0.1grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 3000 units per reel



Schematic Diagram

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions		Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}			600	V
Working Peak Reverse Voltage	V_{RWM}			600	V
Maximum DC Blocking Voltage	V_{DC}			600	V
Maximum Average Forward Rectified Current @ T_C=105°C Total Device / Per Diode	$I_F(AV)$			4	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode	I_{FSM}			90	A
Voltage Rate of Change (rated V_R)	$D_{V/dt}$			10000	V/μs
Operating Junction Temperature Range	T_J			-55 to +150	°C
Storage Temperature Range	T_{STG}			-55 to +150	°C
Maximum Reverse Recover Time (I_F=0.5A, I_R=1.0A,Irec=0.25A)	T_{rr}			35	ns
Maximum Instantaneous Forward Voltage per Leg	V_F	I_F=4A I_F=4A	T_C=25°C T_C=125°C	1.50 1.40	V
Maximum Reverse Current per Leg at Working Peak Reverse Voltage	I_R		T_J=25°C T_J=100°C	10 500	μA μA

Thermal Characteristics

Parameter	Symbol	Typ.	Unit
Thermal Resistance, Junction to Case per Leg	$R_{\theta JC}$	2.0	°C/W
Thermal Resistance, Junction to Ambient per Leg	$R_{\theta JA}$	62.5	°C/W

Note: Pulse test:300us pulse width, duty cycle=2%

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Ultrafast Recovery Rectifier
Reverse Voltage 600V Forward Current 4A

Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

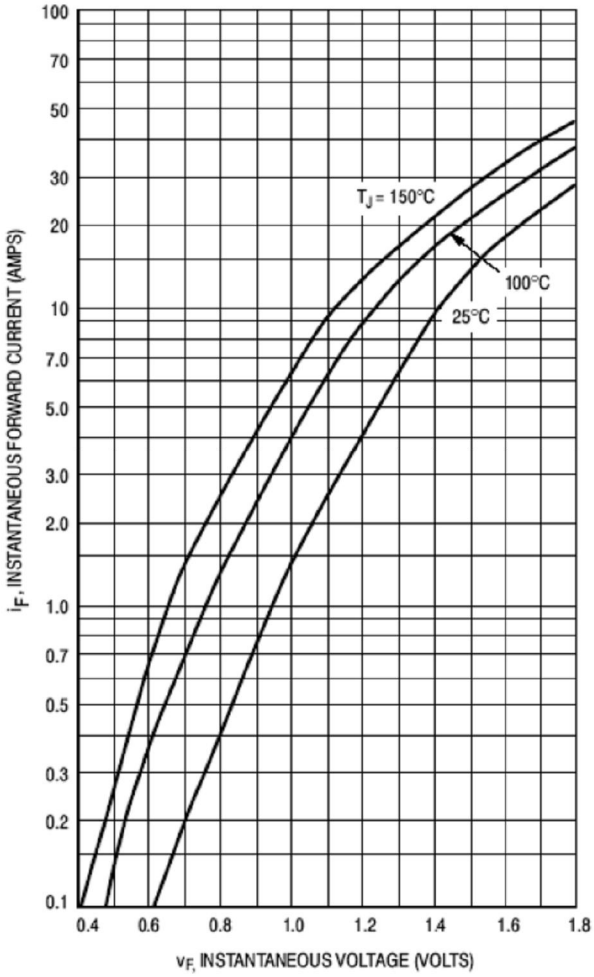


Figure 11. Typical Forward Voltage, Per Leg

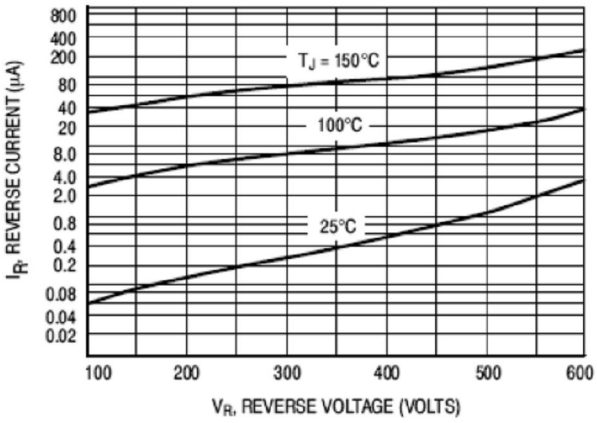


Figure 12. Typical Reverse Current, Per Leg*

* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R.

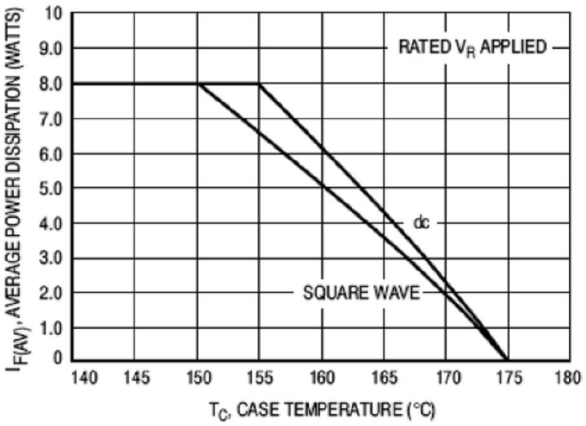


Figure 13. Current Derating, Case, Per Leg

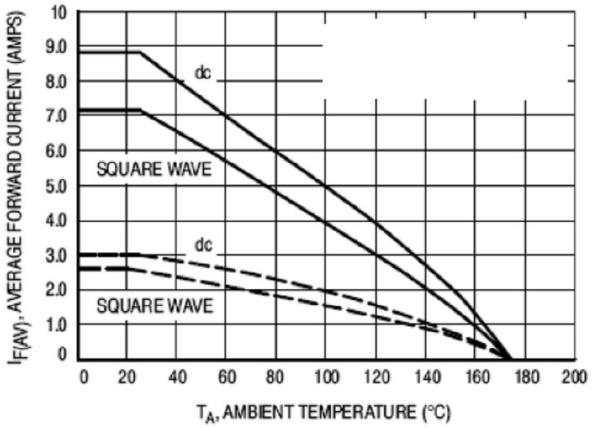


Figure 14. Current Derating, Ambient, Per Leg

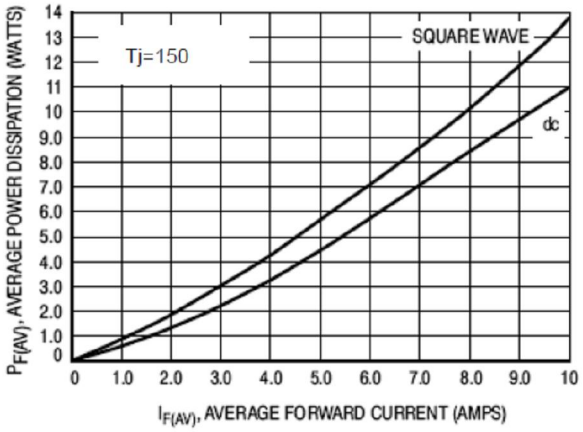
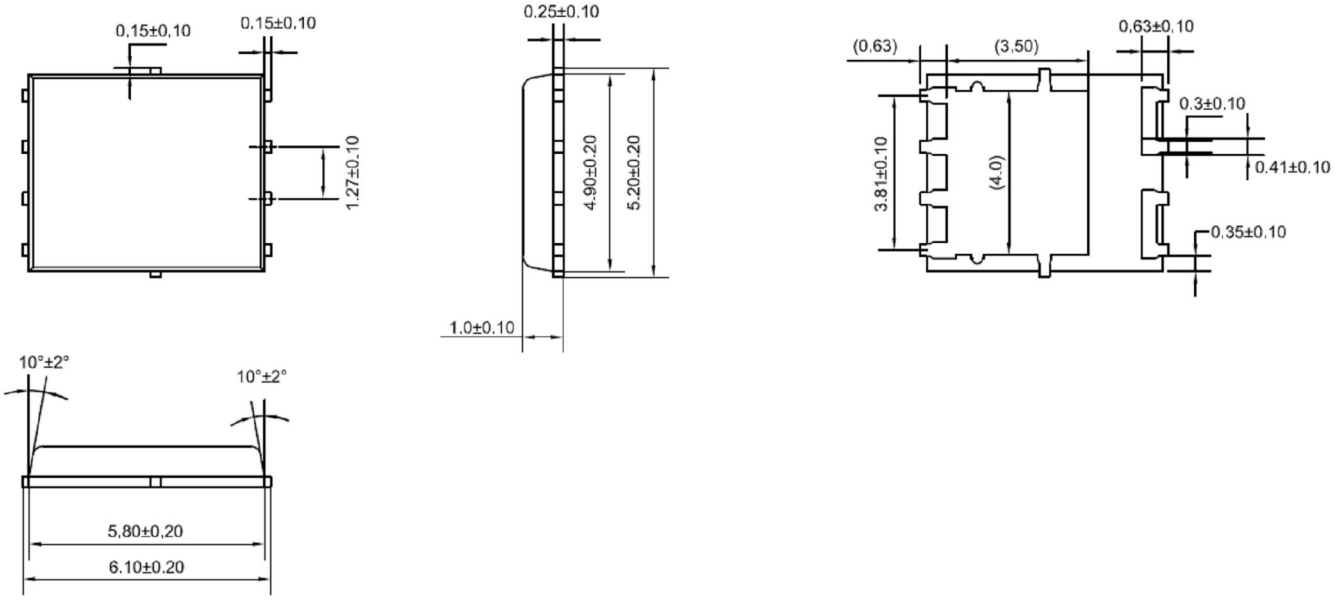


Figure 15. Power Dissipation, Per Leg

Package Outline Dimensions Power QFN5x6



Unit: millimeters