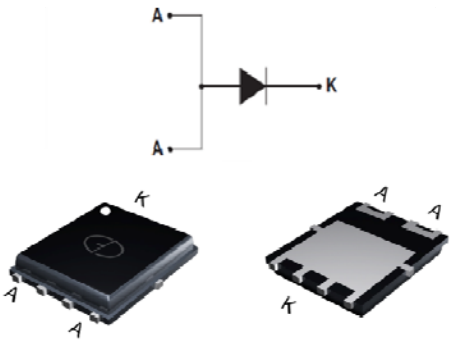
SMURP1060

Ultrafast Recovery Planar Diode
Reverse Voltage 600 Volts Forward Current 10 Amperes

Features

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



Package: 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

Maximum Ratings & Electrical Characteristics

(T_A=25℃ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	SMURP1060	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 at T_C=105°C total device per diode			I_F(AV)	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	125	A
Voltage rate of change（rated V_R）			Dv/dt	10000	V/us
Operating junction temperature range			T_J	—55 to+150	°C
Storage temperature range			T_{STG}	—55 to+150	°C
Maximum Reverse Recover Time （If=0.5Amp, IR=1.0Amp,Irec=0.25Amp）	Trr		Trr	50	ns
Maximum instantaneous forward voltage per leg	I_F=10A I_F=10A	T_C=25℃ T_C=125℃	V_F	1.60 1.50	V
Maximum reverse current per leg at working peak Reverse voltage		T_J=25℃ T_J=100°C	I_R	10 500	uA uA

Thermal Characteristics T_A=25℃ unless otherwise noted

Symbol	Parameter	TYP（POWER QFN 5x6）	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	2.5	°C /W
RθJA	Thermal Resistance, Junction to Ambient per Leg	50	°C /W

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

Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

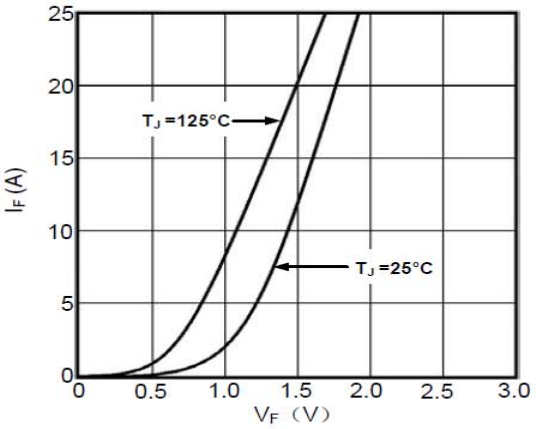


Fig1. Forward Voltage Drop vs Forward Current

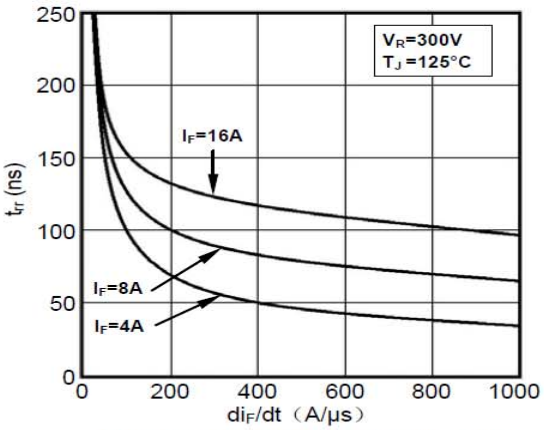


Fig2. Reverse Recovery Time vs di_F/dt

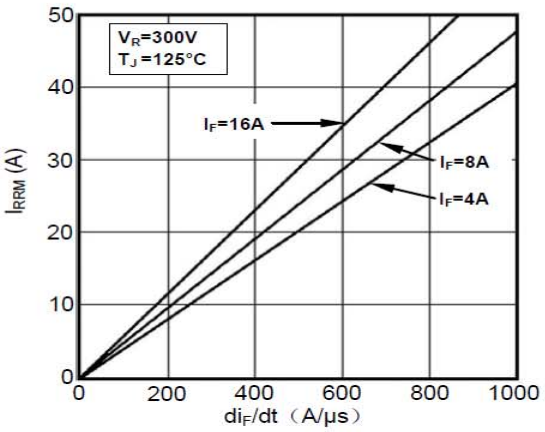


Fig3. Reverse Recovery Current vs di_F/dt

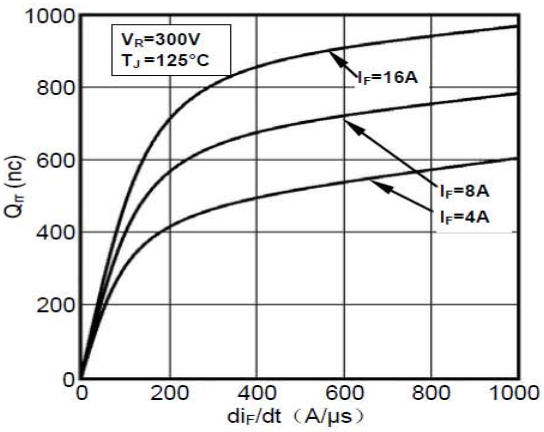


Fig4. Reverse Recovery Charge vs di_F/dt

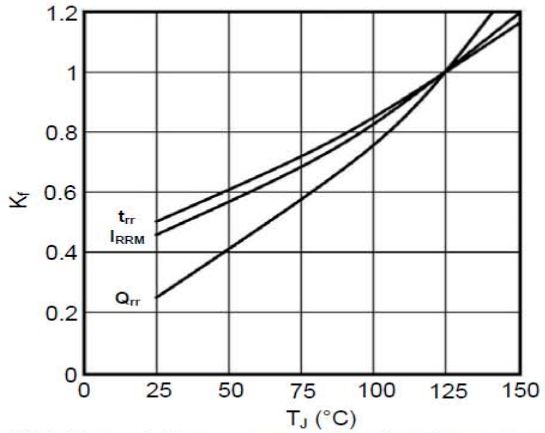


Fig5. Dynamic Parameters vs Junction Temperature

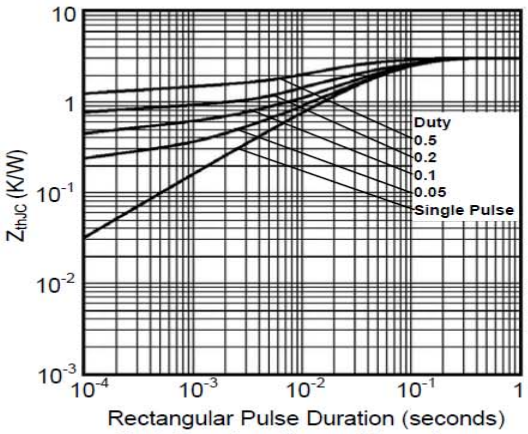
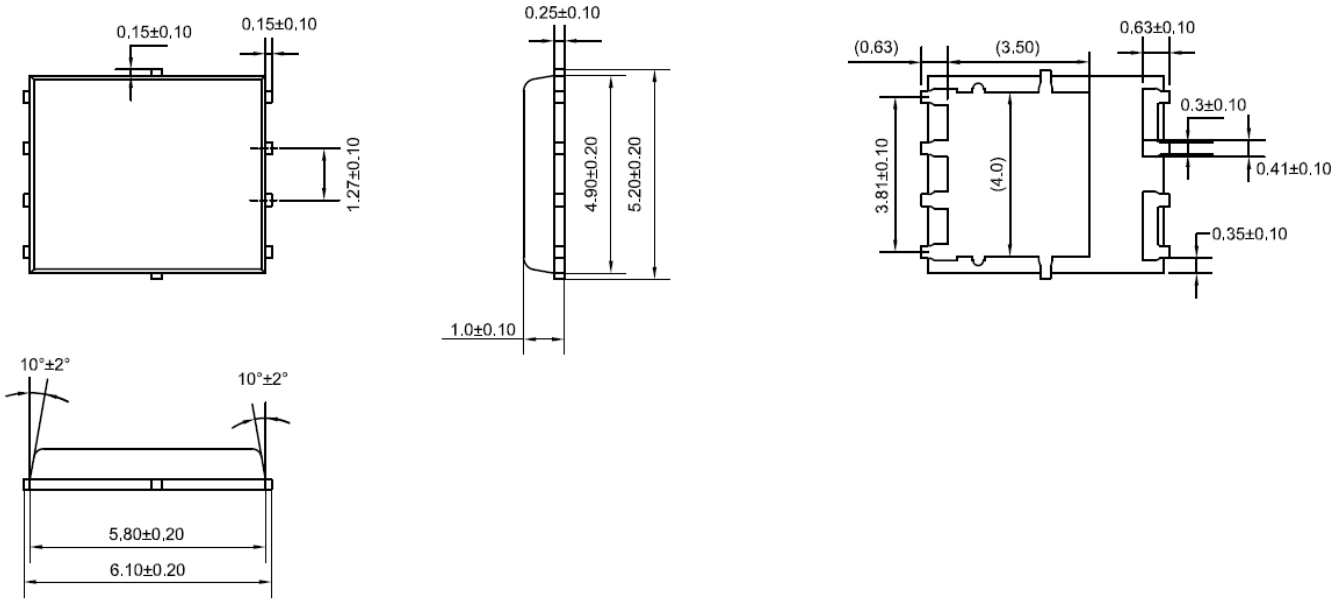


Fig6. Transient Thermal Impedance

Package Outline Dimensions

Unit: millimeters

POWER QFN 5x6



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