Technical Data
Data Sheet 4857, Rev.-

MURC620
Ultrafast Silicon Die

Applications:

• **Switching Power Supply** • **General Purpose** • **Free-Wheeling Diodes** • **Polarity Protection Diode**

Features:

- **Glass-Passivated**
- **Epitaxial Construction.**
- **Low Reverse Leakage Current**
- **High Surge Current Capability**
- **Low Forward Voltage Drop**
- **Fast Reverse-Recovery Behavior**

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	200	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @T_C =100°C, rectangular wave form	6.0	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	60	A
Max. Junction Capacitance	C_J	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz, V_{SIG} = 50mV (p-p)	75	pF
Max. Junction Temperature	T_J	-	-65 to +150	°C
Max. Storage Temperature	T_{stg}	-	-65 to +150	°C

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop *	V_{F1}	@ 6.0A, Pulse, T_J = 25 °C	1.2	V
	V_{F2}	@ 6.0A, Pulse, T_J = 100 °C	1.0	V
Max. Reverse Current *	I_{R1}	@V_R = rated V_R T_J = 25 °C	6	µA
	I_{R2}	@V_R = 0.8V_R T_J = 100 °C	60	µA
Max Reverse Recovery Time	t_{rr}	I_F=0.5A, I_R=1.0A, I_{REC}=0.25A	25	nS
Max Reverse Recovery Time	t_{rr}	I_F=6A, di/dt=200A/µs	35	nS

* Pulse Width < 300µs, Duty Cycle <2%

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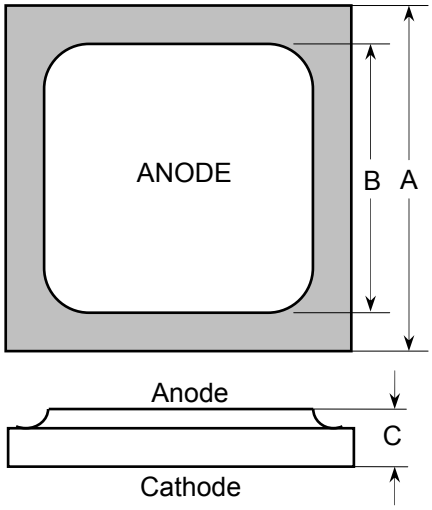
Dimensions in inches (mm)



Top side metalization:
Al - 25 kÅ minimum or
Ti/Ni/Ag - 30 kÅ minimum

Bottom side metalization:
Ti/Ni/Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

Die type	Area (mil^2)	Dimension A (1) Inch (millimeter)	Dimension B (1) Inch (millimeter)	Dimension C (2) Inch (millimeter)
Si p-n die	85 x 85	0.085 (2.159)	0.069 (1.753)	0.009 (0.229)

(1) Tolerance is ± 0.003" (0.076 mm)
(2) Tolerance is ± 0.001" (0.025 mm)

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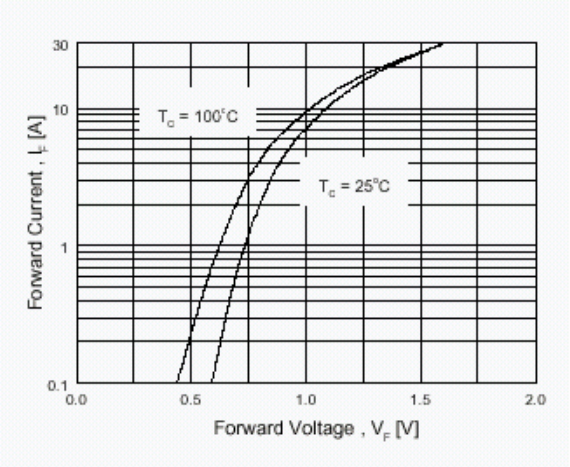

Figure 1. Typical Forward Voltage Drop vs. Forward Current

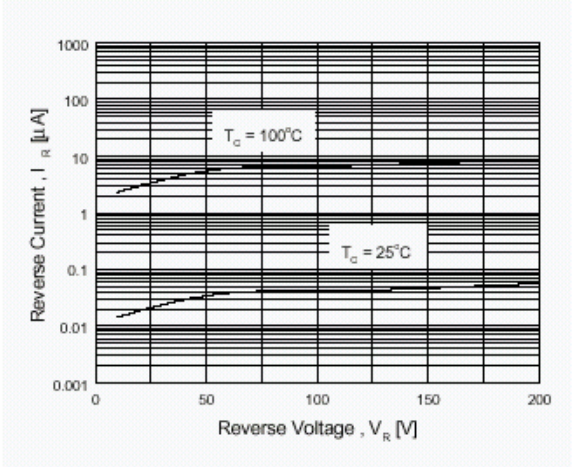

Figure 2. Typical Reverse Current vs. Reverse Voltage

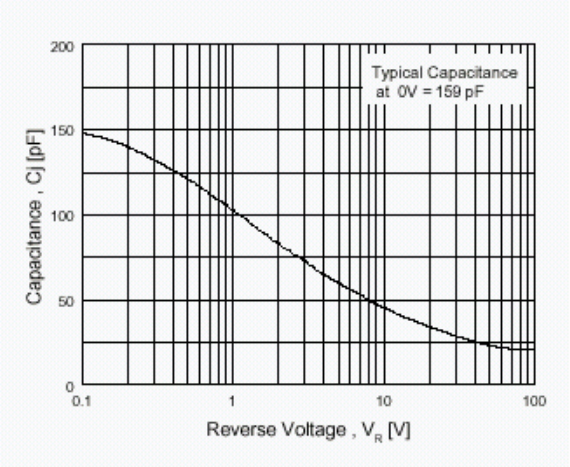

Figure 3. Typical Junction Capacitance

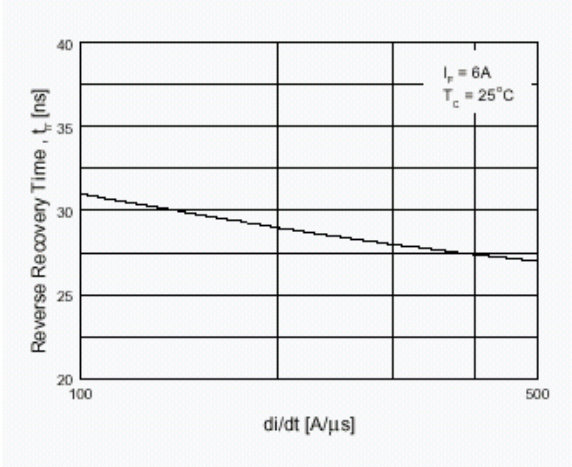

Figure 4. Typical Reverse Recovery Time vs. di/dt

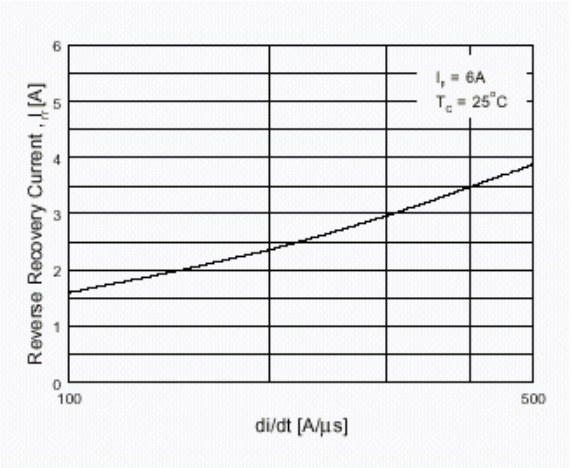

Figure 5. Typical Reverse Recovery Current vs. di/dt

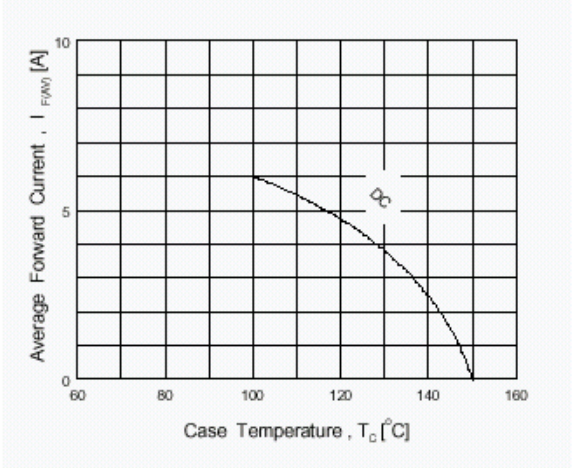

Figure 6. Forward Current Derating Curve