

TECHNICAL DATA
DATA SHEET 400, REV. -

Ultra Fast $T_{rr} < 12 \text{ nsec}$

ULTRA LOW REVERSE LEAKAGE POWER SCHOTTKY RECTIFIER

Very Low Forward Voltage Drop

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

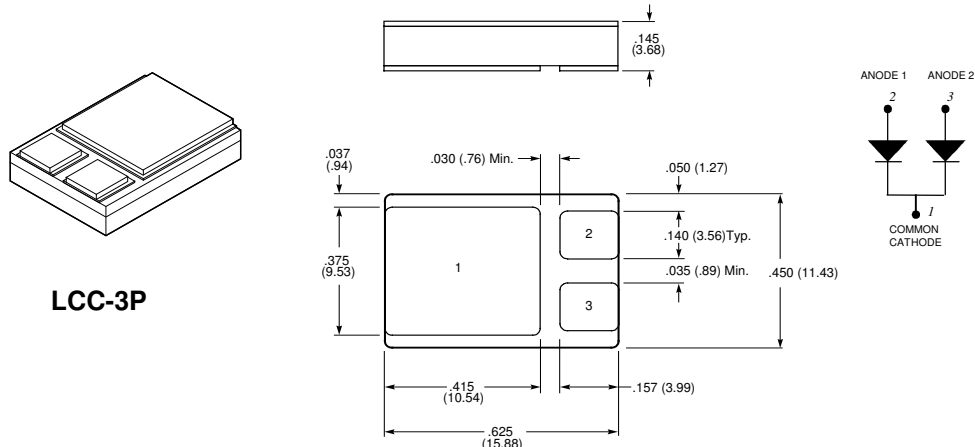
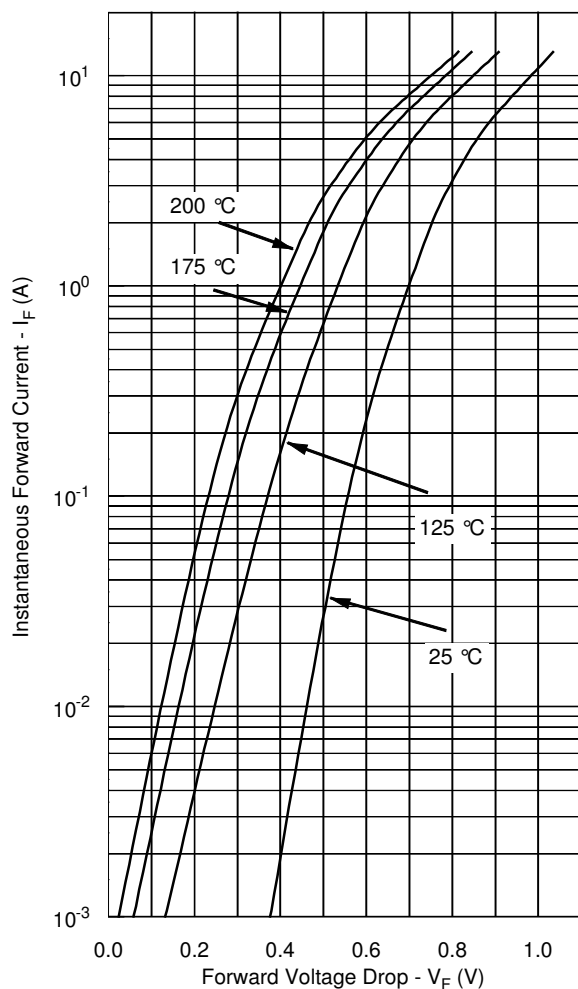
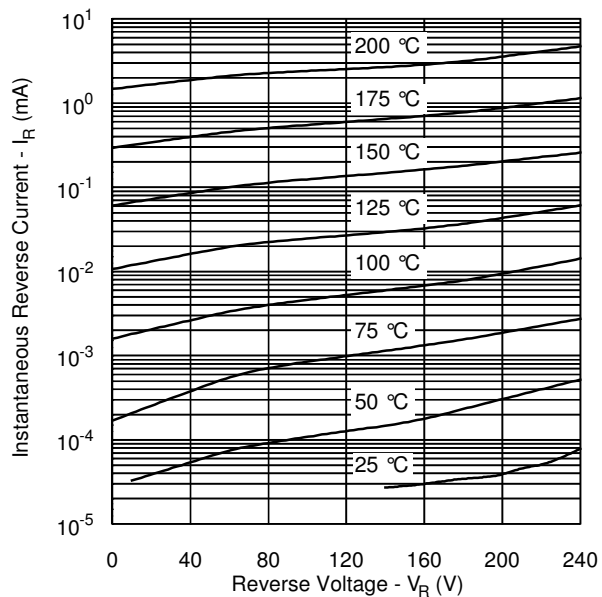
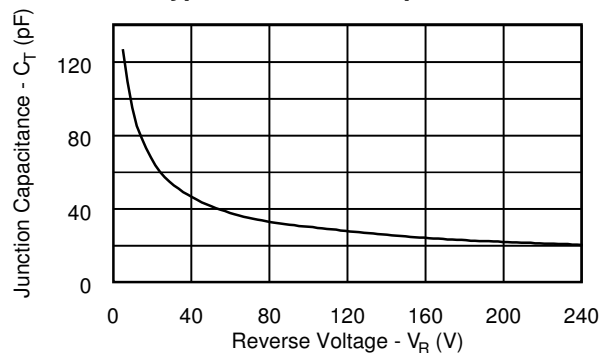
- Ultra Low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Electrically / Mechanically Stable during and after Packaging
- Out Performs 200 Volt Ultra fast Rectifiers

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	200	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$, rectangular wave form	15	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	140	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 0.4 \text{ A}$, $L = 40 \text{ mH}$	7.7	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	I_{AS} decay linearly to 0 in $1 \mu\text{s}$ f limited by T_J max $V_A = 1.5V_R$	0.4	A
Max. Junction Temperature	T_J	-	-65 to +200	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^\circ\text{C}$

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)	V_{F1}	@ 15A, Pulse, $T_J = 25^\circ\text{C}$	1.0	V
	V_{F2}	@ 15A, Pulse, $T_J = 125^\circ\text{C}$	0.84	V
Max. Reverse Current (per leg)	I_{R1}	@ $V_R = 200\text{V}$, Pulse, $T_J = 25^\circ\text{C}$	0.008	mA
	I_{R2}	@ $V_R = 200\text{V}$, Pulse, $T_J = 125^\circ\text{C}$	0.5	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	150	pF
Maximum Thermal Resis. (per leg)	$R_{\theta JC}$	-	3.0	$^\circ\text{C/W}$
Max. Reverse Recovery Time (per leg)	t_{rr}	$I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{RM} = 0.25 \text{ A}$, $T_J = 25^\circ\text{C}$	12	nsec

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Mechanical Dimensions: In Inches / mm

Typical Forward Characteristics

Typical Reverse Characteristics

Typical Junction Capacitance


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