

TECHNICAL DATA
DATA SHEET 1034, REV. -

ULTRA LOW REVERSE LEAKAGE PLASTIC POWER SCHOTTKY RECTIFIER (150 V, 40 A)

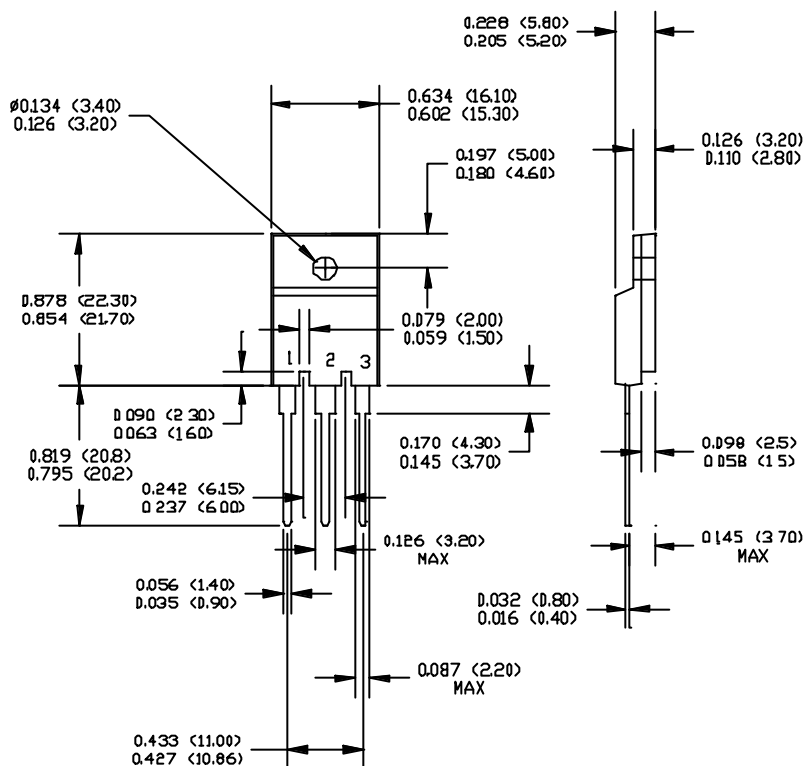
Applications:

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

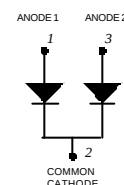
Features:

- Ultra low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Low Forward Voltage Drop and 175 °C Operation
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Out Performs 150 Volt Ultrafast Rectifiers

Mechanical Dimensions: In Inches / mm



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	150(40CPQ150) 135(40CPQ135)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 135^\circ\text{C}$, rectangular wave form	40	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	360	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)	V_{F1}	@ 20 A, Pulse, $T_J = 25^\circ\text{C}$ @ 40 A, Pulse, $T_J = 25^\circ\text{C}$	0.84 0.94	V
	V_{F2}	@ 20 A, Pulse, $T_J = 125^\circ\text{C}$ @ 40 A, Pulse, $T_J = 125^\circ\text{C}$	0.68 0.78	V
Max. Reverse Current (per leg)	I_{R1}	@ $V_R = \text{Rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$	1.5	mA
	I_{R2}	@ $V_R = \text{Rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$	15.0	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	900	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	7.5	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-65 to +175	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	1.25	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.63	$^\circ\text{C/W}$
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	$^\circ\text{C/W}$
Approximate Weight	wt	-	6	g
Mounting Torque	T_M	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-247AC (TO-3P) JEDEC			

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