

Technical Data
Data Sheet 2950, Rev. A

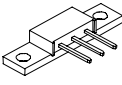
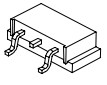
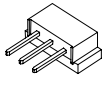
60CNQ035/60CNQ040/60CNQ045
SCHOTTKY RECTIFIER

Applications:

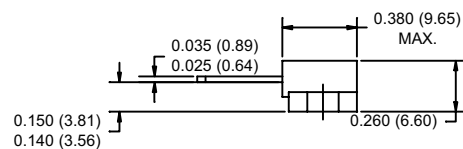
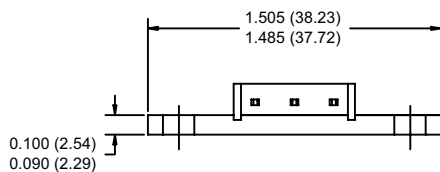
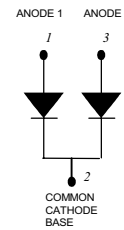
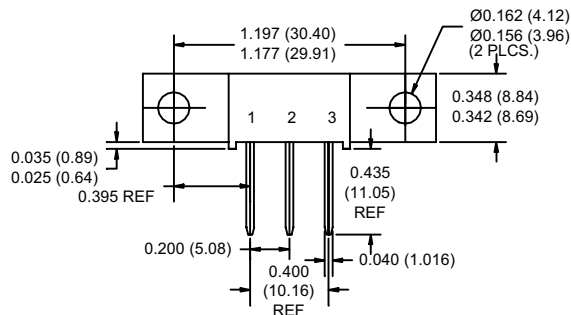
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150°C T_J operation
- Center tap module
- Very Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Low profiles, small footprint, high current package

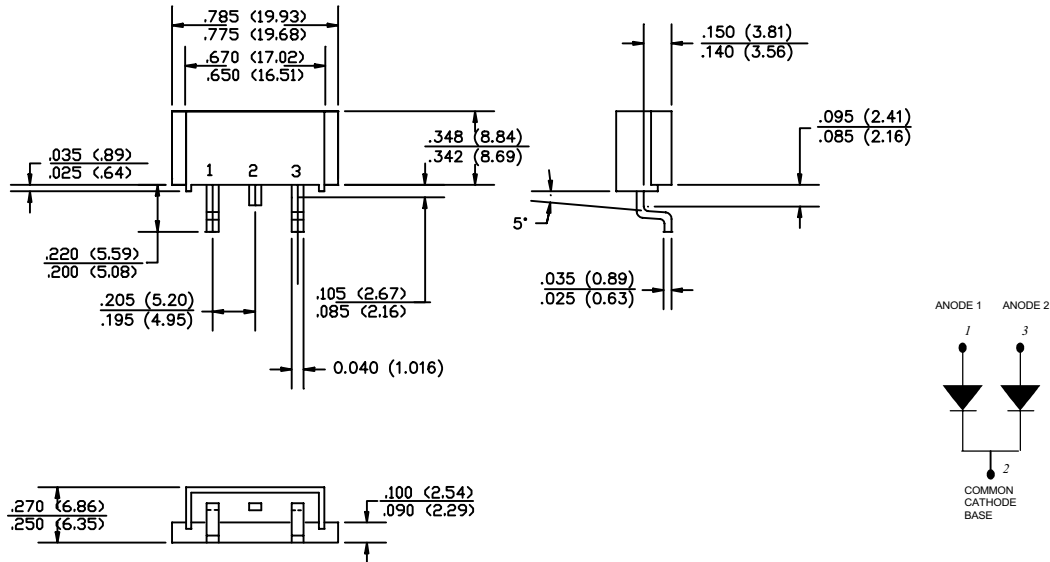
Case Styles		
60CNQ...  PRM3	60CNQ...SL  PRM3-SL	60CNQ...SM  PRM3-SM

Mechanical Dimensions: In Inches / mm

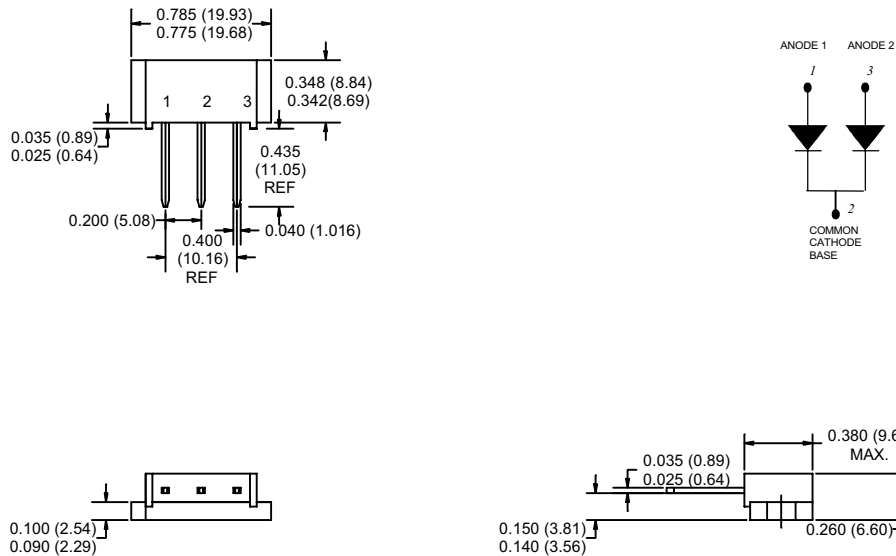


PRM3

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PRM3-SL



PRM3-SM

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	35(60CNQ035) 40(60CNQ040) 45(60CNQ045)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 116^\circ\text{C}$, rectangular wave form	60	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	1020	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 6\text{ A}$, $L = 2.2\text{ mH}$	40	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	6	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 30 A, Pulse, $T_J = 25^\circ\text{C}$	0.55	V
		@ 60 A, Pulse, $T_J = 25^\circ\text{C}$	0.64	
	V_{F2}	@ 30 A, Pulse, $T_J = 125^\circ\text{C}$	0.44	V
		@ 60 A, Pulse, $T_J = 125^\circ\text{C}$	0.59	
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	5	mA
		I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	2600	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	6.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

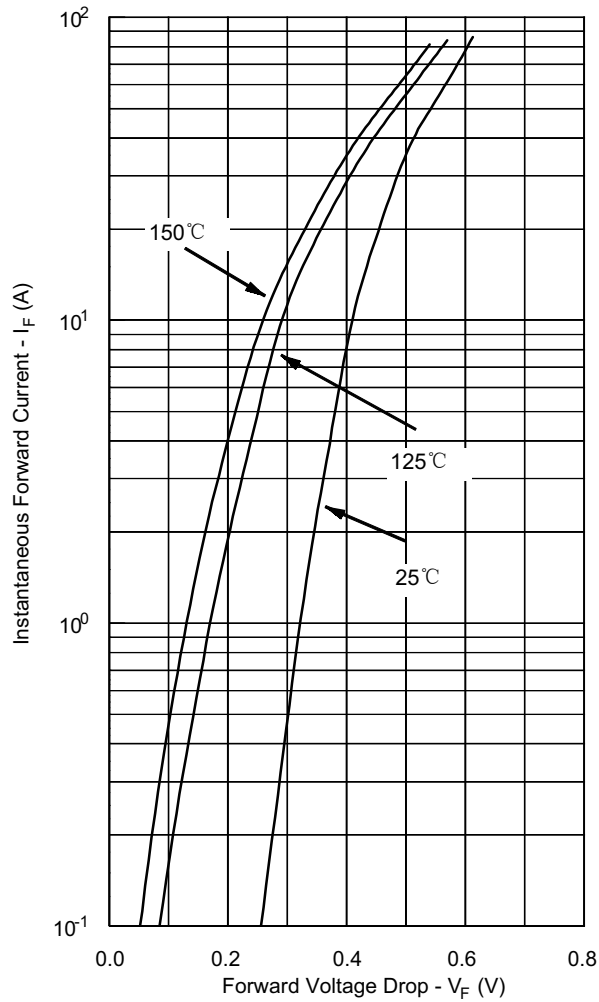
* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

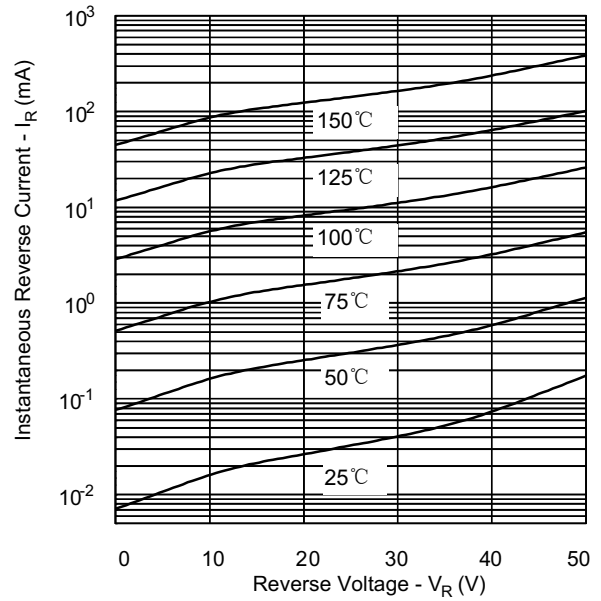
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.85(per leg)	$^\circ\text{C/W}$
			0.42(per device)	
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.30	$^\circ\text{C/W}$
Approximate Weight	wt	-	7.8	g
Mounting Torque	T_M	-	40(min) 58(max)	Kg-cm
Case Style	PRM3 PRM3-SL PRM3-SM			

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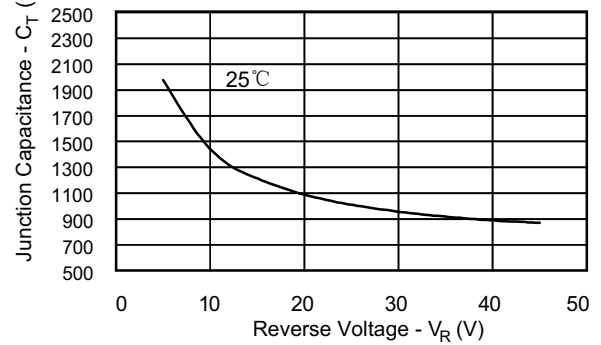
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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