



THE DATASHEET OF 60CNQ045SL



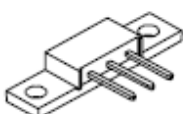
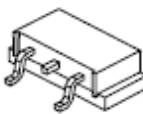
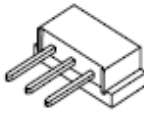
60CNQ035/60CNQ040/60CNQ045 SCHOTTKY RECTIFIER

Applications:

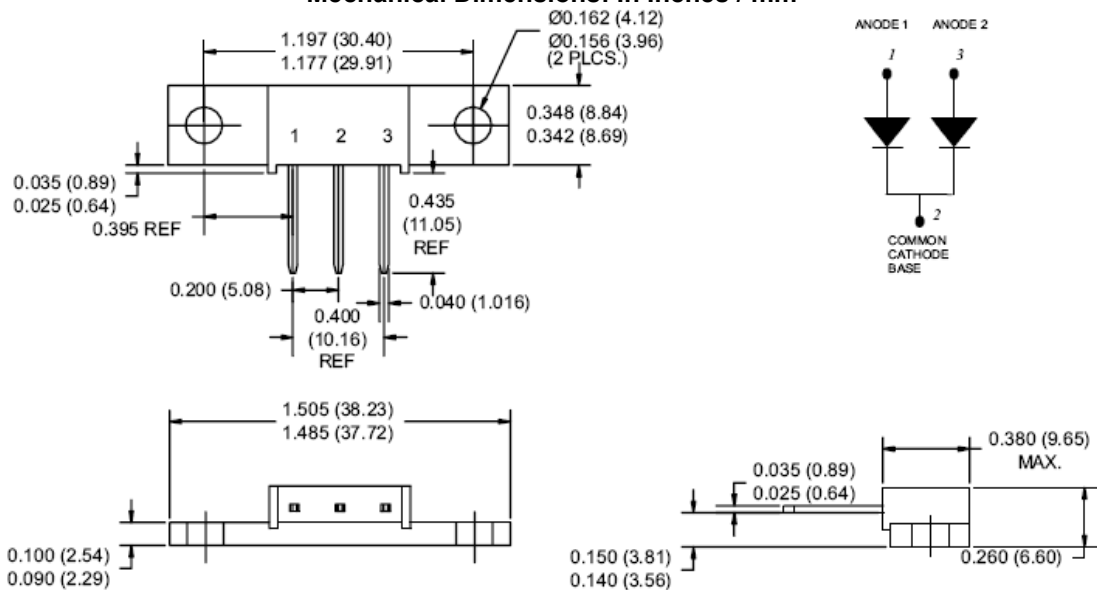
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

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 profile, high current package
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

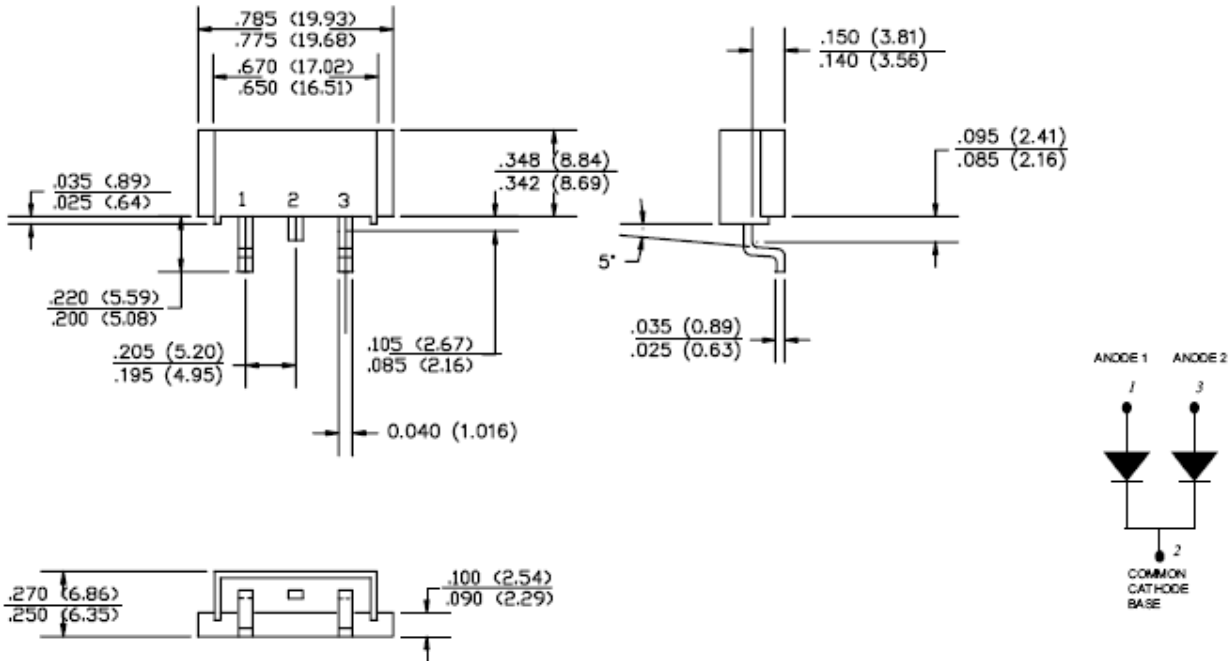
Case Styles		
60CNQ...  PRM3	60CNQ...SL  PRM3-SL	60CNQ...SM  PRM3-SM

Mechanical Dimensions: In Inches / mm

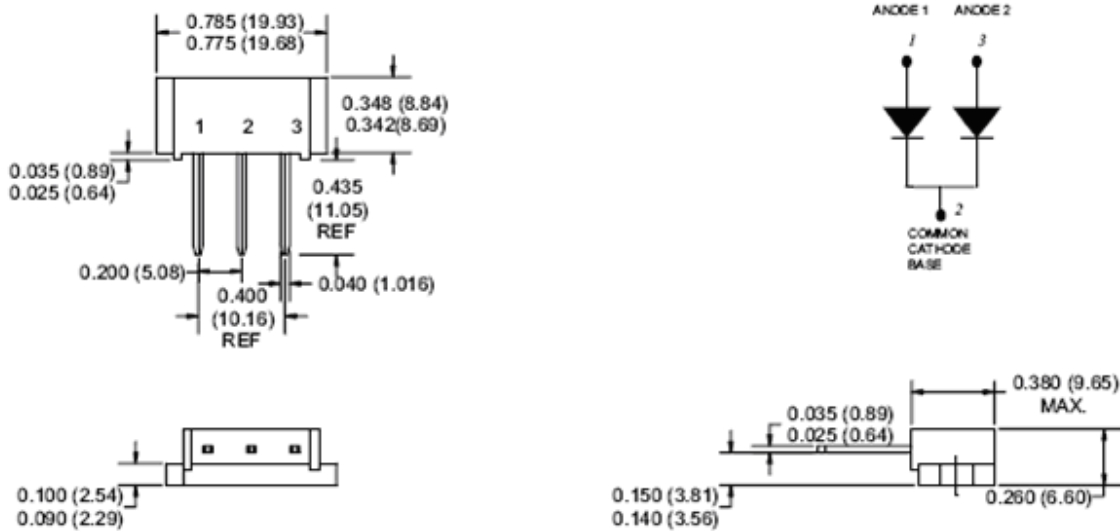


PRM3

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PRM3-SL



PRM3-SM

MARKING, MOLDING RESIN

Marking for 60CNQ035/SL/SM, 1st row SS YYWWL, 2nd row 60CNQ035/SL/SM, 3rd row 1 2 3 (pin)
 Where YY is the manufacture year
 WW is the manufacture week code
 L is the wafer's Lot Number

Molding resin
 Epoxy resin UL: 94V-0

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60CNQ SERIES

Technical Data
Data Sheet N1027, Rev. -

Green Products

Ordering Information:

Device	Package	Terminals finish	Shipping
60CNQ035	PRM3	Nickel plated	48pcs / box
60CNQ035S	PRM3	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
60CNQ040	PRM3	Nickel plated	48pcs / box
60CNQ040S	PRM3	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
60CNQ045	PRM3	Nickel plated	48pcs / box
60CNQ045S	PRM3	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	35(60CNQ035) 40(60CNQ040) 45(60CNQ045)	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 116^\circ\text{C}$, rectangular wave form	60	A
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

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 30A, Pulse, $T_J = 25\text{ °C}$	0.49	0.55	V
		@ 60A, Pulse, $T_J = 25\text{ °C}$	0.58	0.64	
	V_{F2}	@ 30A, Pulse, $T_J = 125\text{ °C}$	0.40	0.44	V
		@ 60A, Pulse, $T_J = 125\text{ °C}$	0.51	0.59	
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ °C}$	0.1	5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ °C}$	80	200	mA
Junction Capacitance (per leg)	C_T	@ $V_R = 5V$, $T_C = 25\text{ °C}$ $f_{SIG} = 1\text{MHz}$	2000	2600	pF
Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	6.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μ s

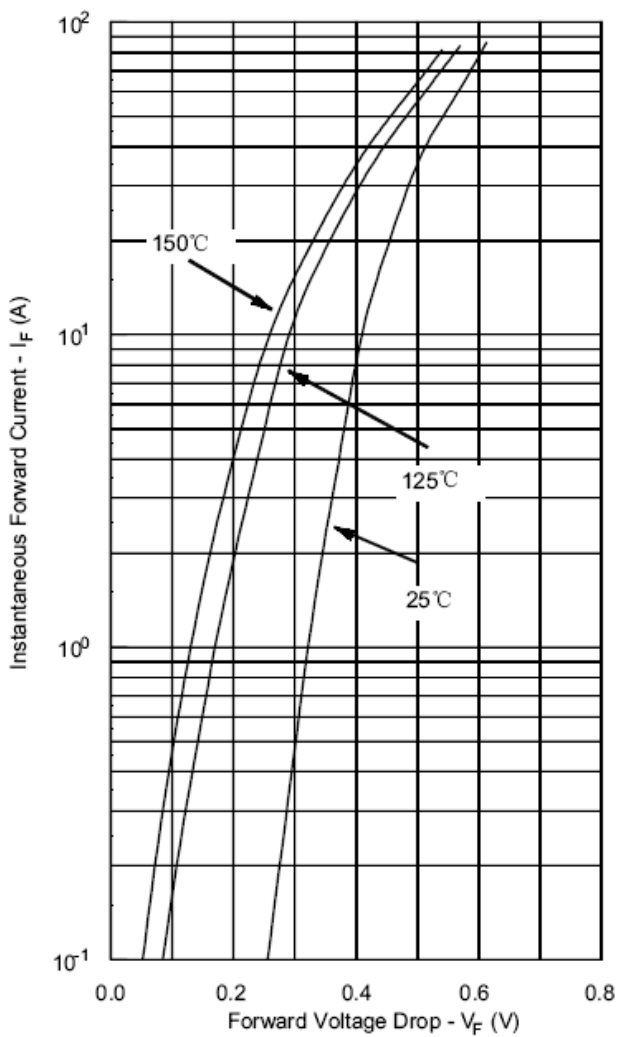
* Pulse Width < 300 μ s, Duty Cycle <2%

Thermal-Mechanical Specifications:

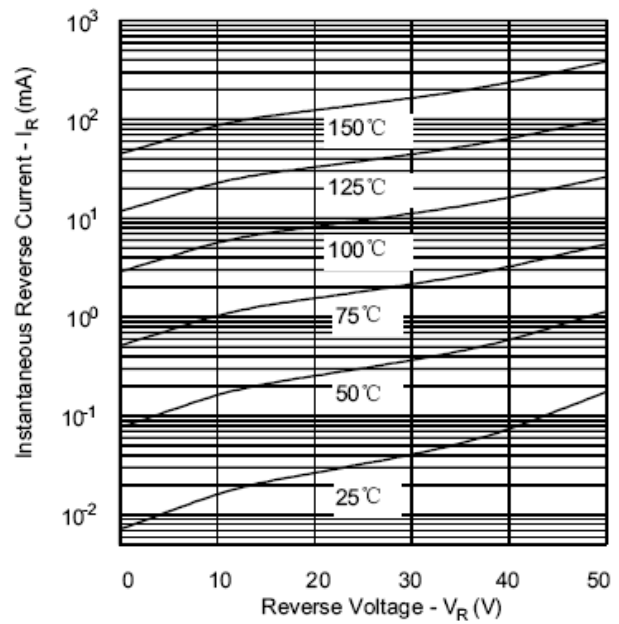
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.85	$^{\circ}\text{C/W}$
Typical Thermal Resistance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

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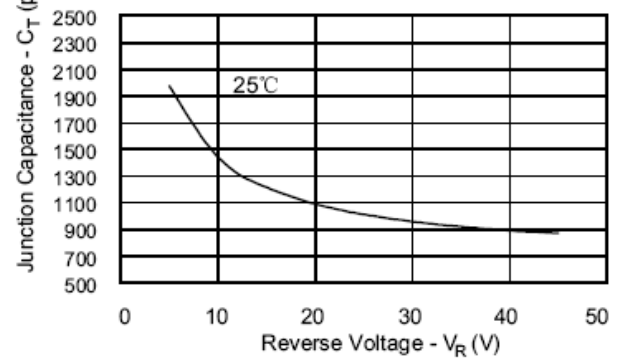
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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-  Alternative Solution
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