Technical Data
Data Sheet N0697, Rev. -

Green Products

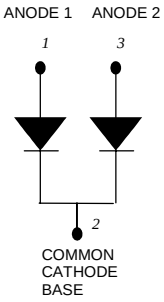
40CPQ080/40CPQ100
SCHOTTKY RECTIFIER

Applications:

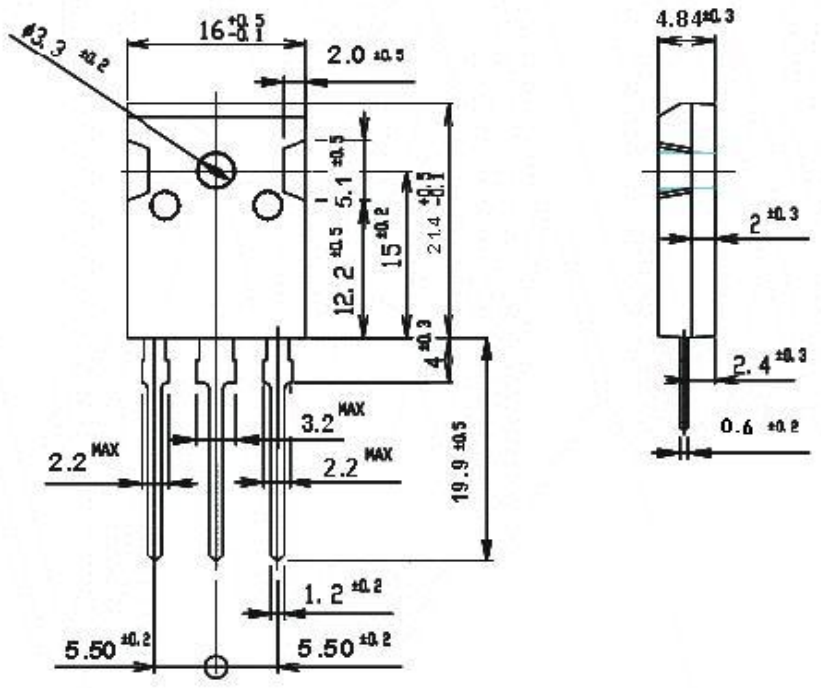
- **Switching power supply**
- **Converters**
- **Free-Wheeling diodes**
- **Reverse battery protection**

Features:

- **150 °C T_J operation**
- **Center tap TO-247AD package**
- **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**
- **Green Products in Compliance with the RoHS Directive**
- **This is a Pb − Free Device**
- **All SMC parts are traceable to the wafer lot**
- **Additional testing can be offered upon request**



Mechanical Dimensions: In mm



TO-247AD

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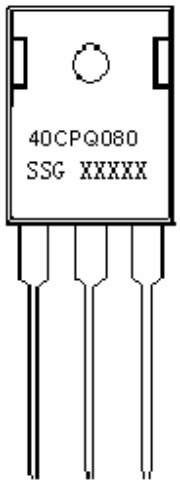
Marking Diagram:



Where XXXXX is YYWWL

40	= Forward Current (40A)
C	= Configuration
PQ	= Device Type
080	= Reverse Voltage (80V)
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
40CPQ080	TO-247AD (Pb-Free)	30pcs/ tube

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 Inverse Voltage	V_{RWM}	-	80	(40CPQ080)	V
			100	(40CPQ100)	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @T_C = 145°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
Non-Repetitive Avalanche Energy(per leg)	E_{AS}	T_J=25℃,I_{AS}=2A, L=90. mH	11.25		mJ
Repetitive Avalanche Current(per leg)	I_{AR}	Current decaying linearly to zero in 1 μ sec Frequency limited by T_J max. V_A=1.5×V_R typical	0.75		A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 20A, Pulse, T_J = 25 °C @ 40A, Pulse, T_J = 25 °C	0.79 0.91	V
	V_{F2}	@ 20A, Pulse, T_J = 125 °C @ 20A, Pulse, T_J = 125 °C	0.61 0.75	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.0	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	15.0	mA
Max. Junction Capacitance (per leg)	C_J	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	600	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	7.5	nH
Max. Voltage Rated of Change	dv/dt	-	10,000	V/μs

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.25(per leg) 0.63(per device)	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	°C/W
Approximate Weight	wt	-	6.7	g
Case Style	TO-247AD			

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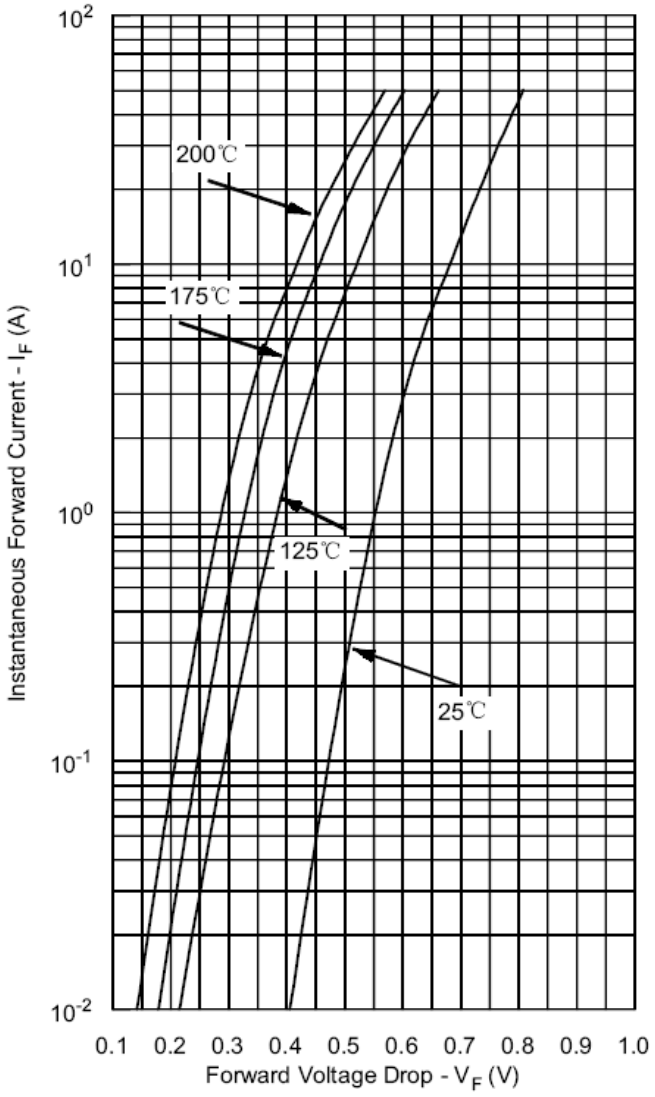
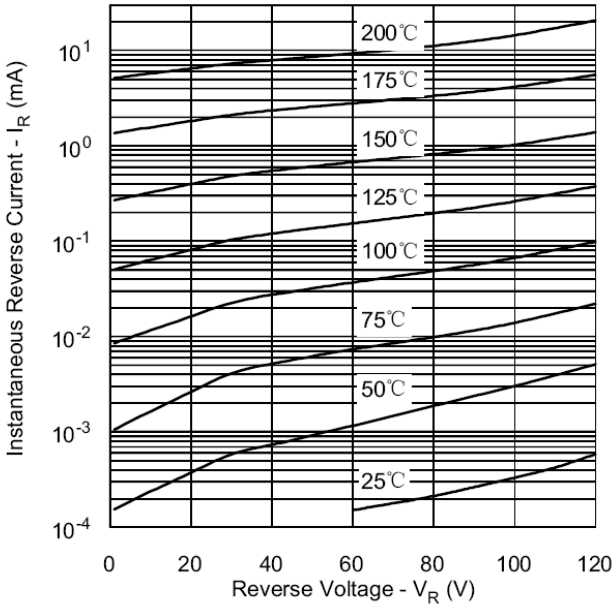
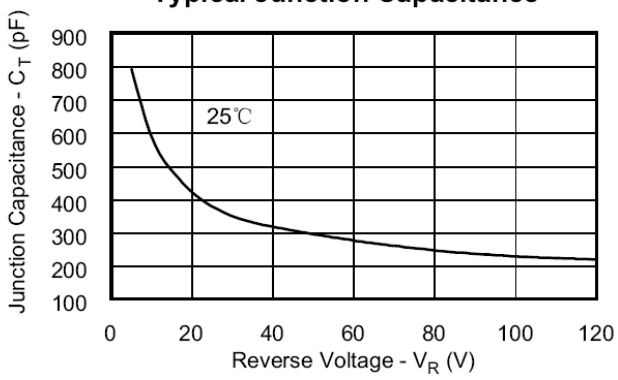
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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