

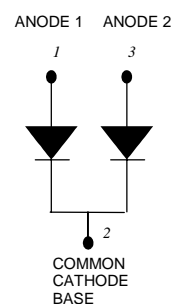
## 40CPQ080/40CPQ100 SCHOTTKY RECTIFIER

### Applications:

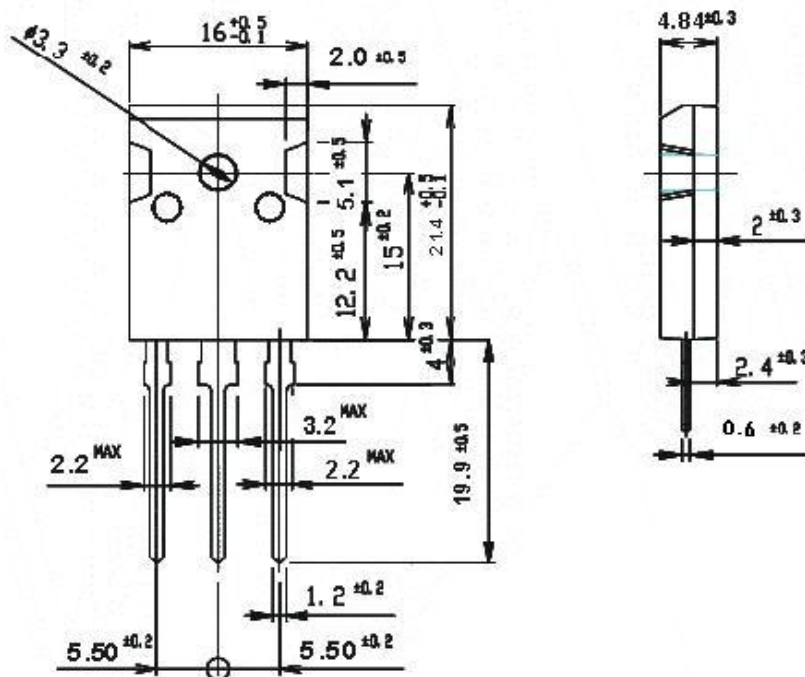
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 150 °C T<sub>J</sub> 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

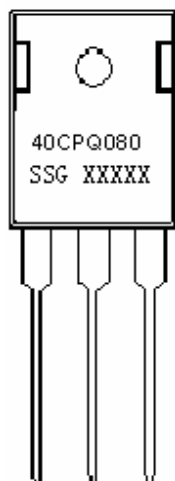


### Mechanical Dimensions: In mm



TO-247AD

**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	V
			100	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 145^\circ\text{C}$ , 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
Non-Repetitive Avalanche Energy(per leg)	$E_{AS}$	$T_J=25^\circ\text{C}$ , $I_{AS}=2\text{A}$ , $L=90. \text{mH}$	11.25	mJ
Repetitive Avalanche Current(per leg)	$I_{AR}$	Current decaying linearly to zero in 1 $\mu$ sec Frequency limited by $T_J$ max. $V_A=1.5 \times V_R$ typical	0.75	A

**Electrical Characteristics:**

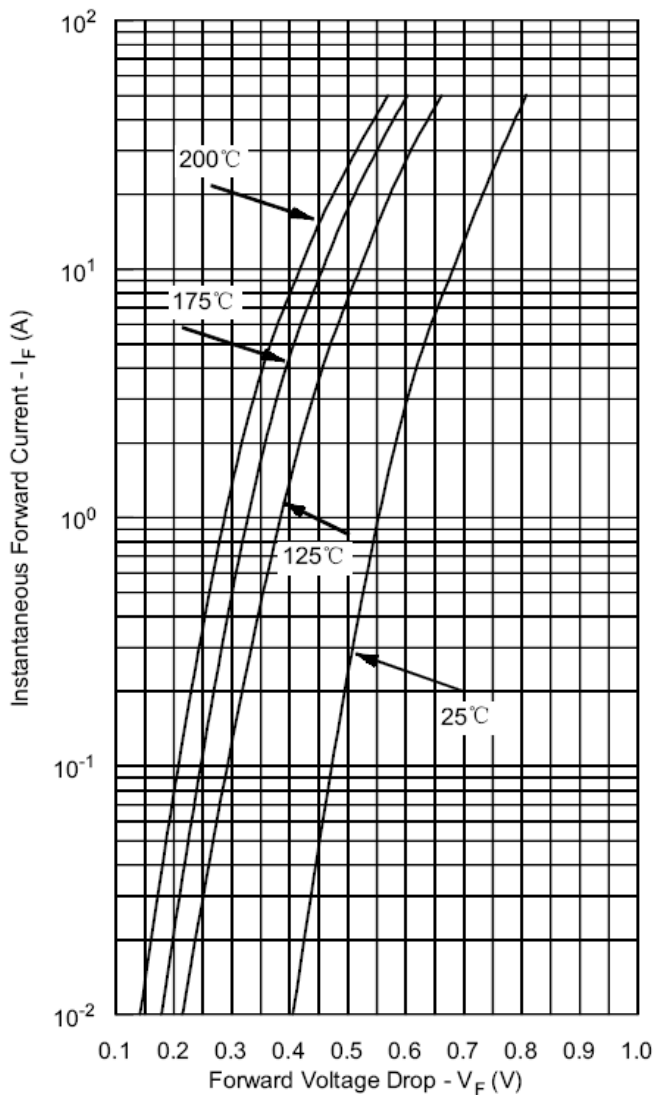
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 20A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.79	V
		@ 40A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.91	
	$V_{F2}$	@ 20A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.61	V
		@ 20A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.75	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$	1.0	mA
		$T_J = 25\text{ }^\circ\text{C}$		
	$I_{R2}$	@ $V_R = \text{rated } V_R$	15.0	mA
		$T_J = 125\text{ }^\circ\text{C}$		
Max. Junction Capacitance (per leg)	$C_J$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	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/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

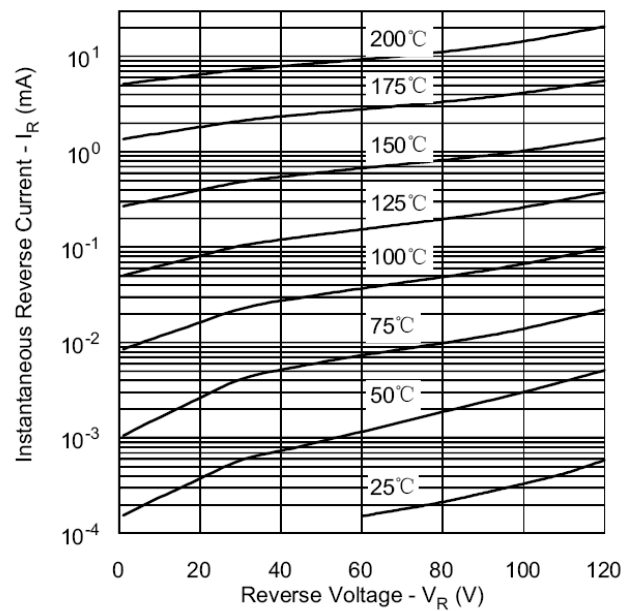
**Thermal-Mechanical Specifications:**

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	1.25(per leg)	$^\circ\text{C/W}$
			0.63(per device)	
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	$^\circ\text{C/W}$
Approximate Weight	wt	-	6.7	g
Case Style	TO-247AD			

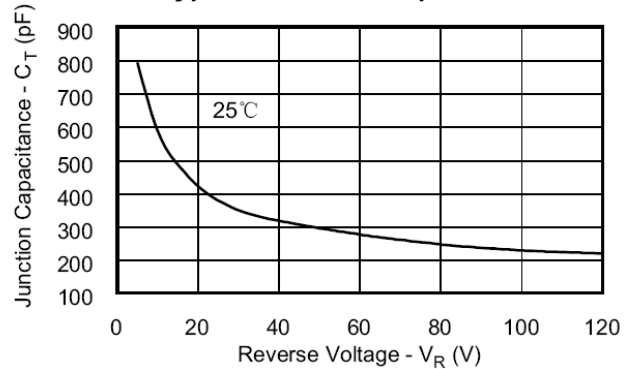
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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