

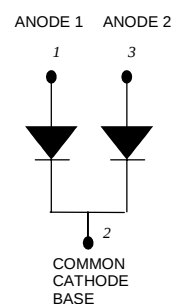
40CPQ080/40CPQ100 SCHOTTKY RECTIFIER

Applications:

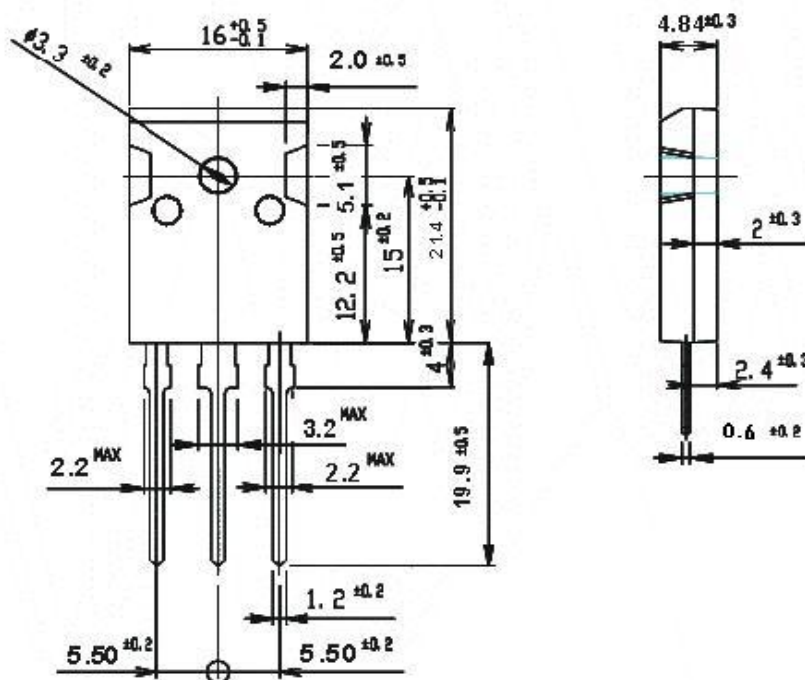
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

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

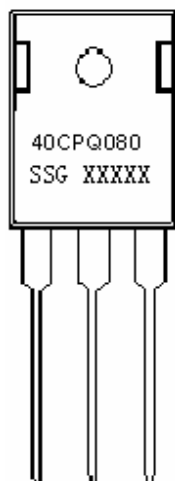


Mechanical Dimensions: In mm



TO-247AD

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}	-	80 100	(40CPQ080) (40CPQ100) V
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 μ sec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	0.75	A

Electrical Characteristics:

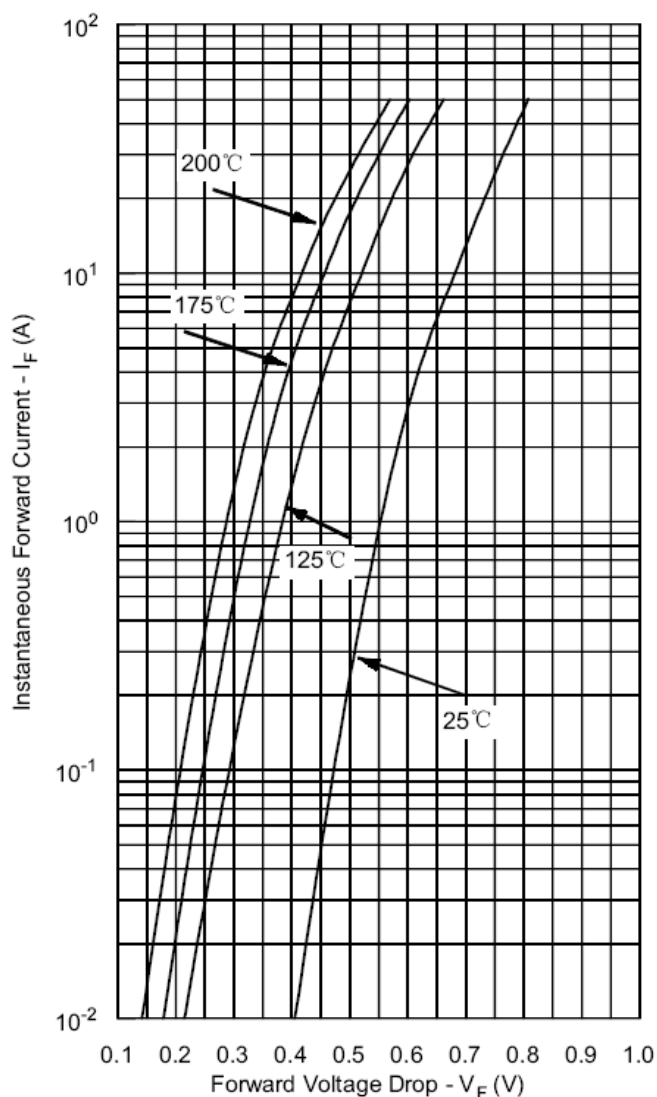
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 20A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$ @ 40A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.79 0.91	V
	V_{F2}	@ 20A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$ @ 20A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$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

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

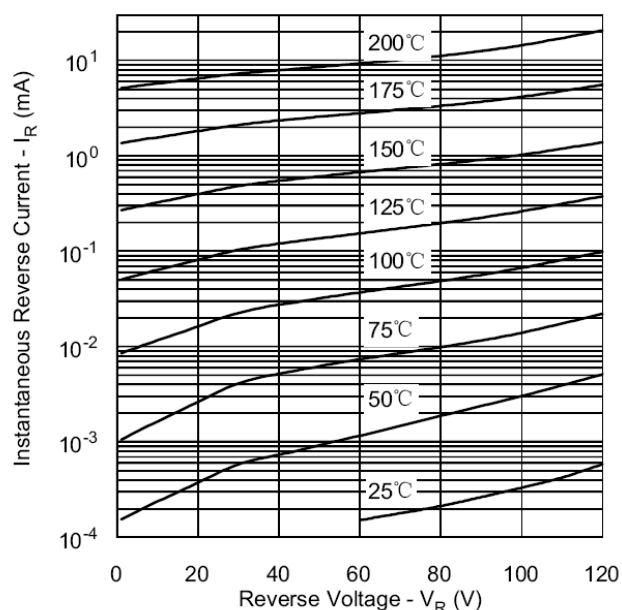
Thermal-Mechanical Specifications:

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	1.25(per leg) 0.63(per device)	$^{\circ}\text{C/W}$
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			

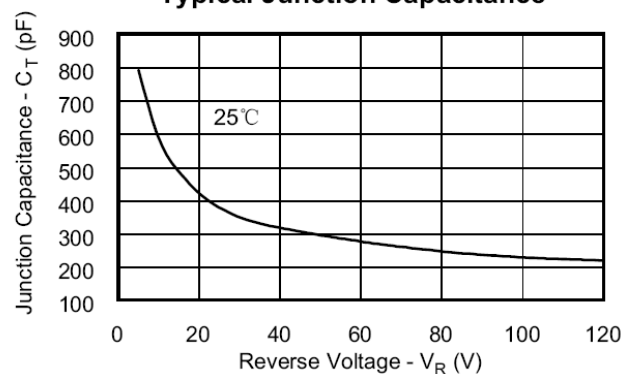
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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