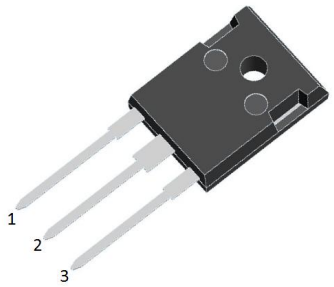
Technical Data
Data Sheet N0612, Rev. B

30CPQ035/30CPQ040/30CPQ045
SCHOTTKY RECTIFIER

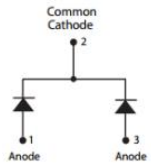


TO-247AD

Features

- 150 °C T_J operation
- 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
- Terminals finish: 100% Pure Tin
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

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

Maximum Ratings(limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	35(30CPQ035) 40(30CPQ040) 45(30CPQ045)	V
Average Rectified Forward Current	$I_{F\ (AV)}$	Tc=132°C, In DC	15(Per Leg) 30(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	318	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 15A, Pulse, T_J = 25 °C @ 30A, Pulse, T_J = 25 °C	0.51 0.63	0.54 0.68	V
	V_{F2}	@ 15A, Pulse, T_J = 125 °C @ 30A, Pulse, T_J = 125 °C	0.44 0.60	0.50 0.64	V
Reverse Current (Per Leg)*	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.04	1.00	mA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	9	70	mA
Junction Capacitance(Per Leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	1000	1100	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

* Pulse width < 300 µs, duty cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.2(Peg Leg) 1.10(Peg Device)	°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.24	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

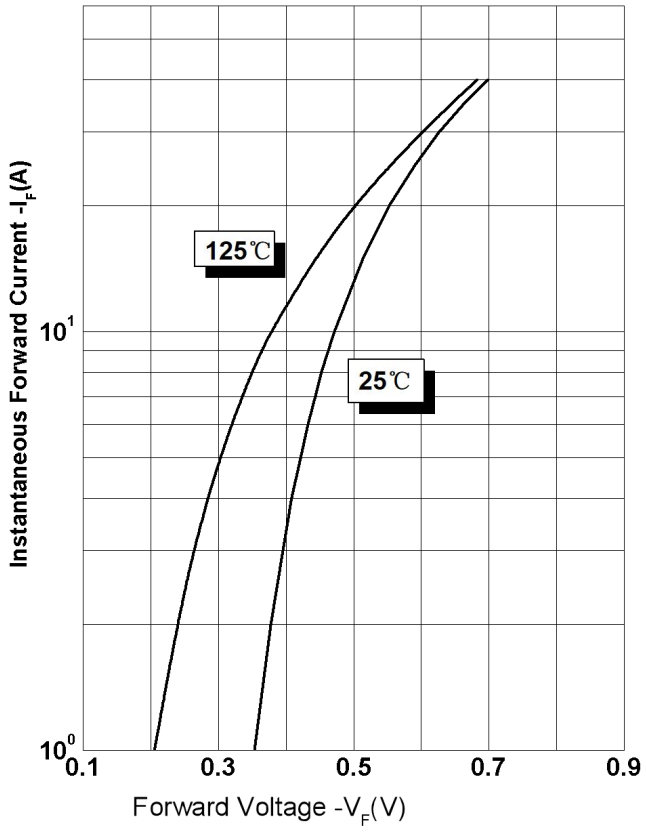


Figure 2 Typical Reverse Characteristics

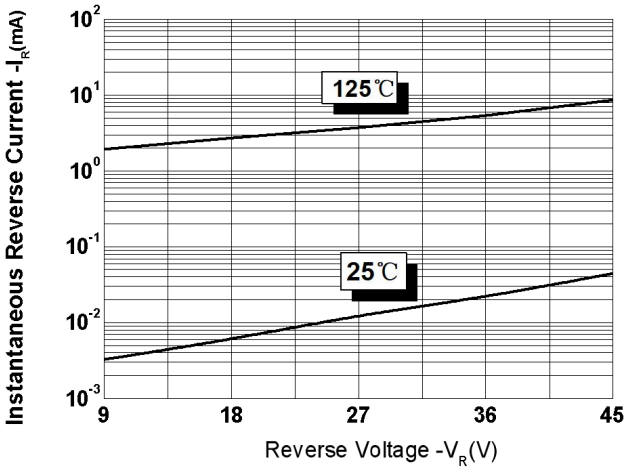
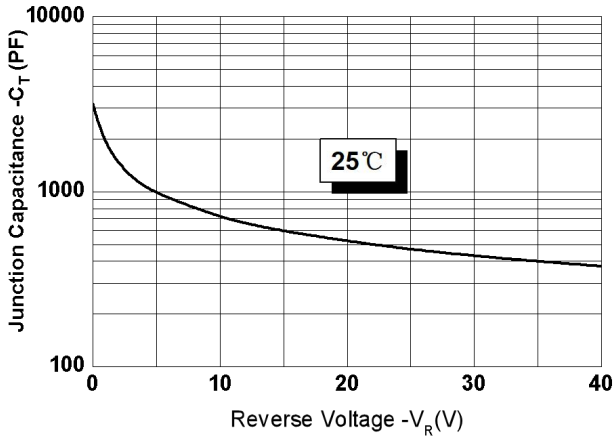


Figure 3 Typical Junction Capacitance



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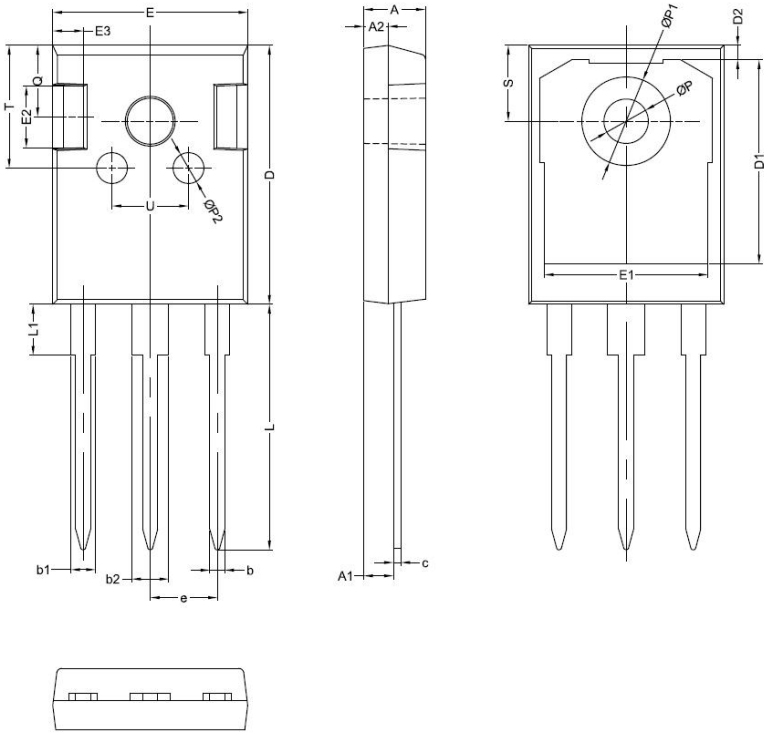
Mechanical Dimensions TO-247AD

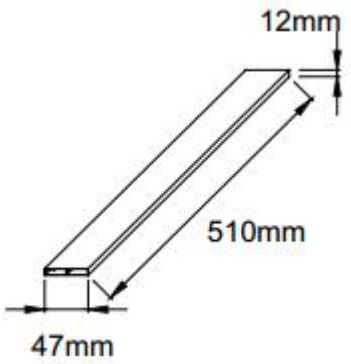


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	3.70
P1	7.1		7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

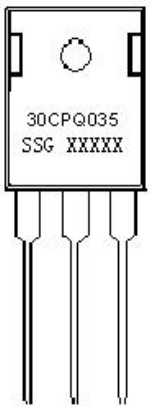
Ordering Information:

Device	Package	Shipping
30CPQ035(040)(045)	TO-247AD(Pb-Free)	25pcs / tube

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

30 = Forward Current (30A)
C = Configuration
PQ = Device Type
035 = Reverse Voltage (35V)
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

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