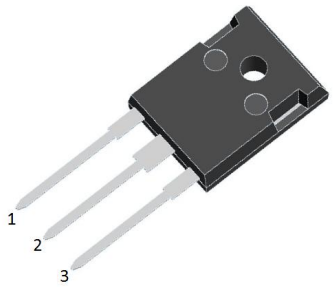
Technical Data
Data Sheet N0612, Rev. A

30CPQ035/30CPQ040/30CPQ045
SCHOTTKY RECTIFIER

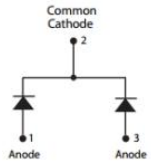


TO-247AD

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
- 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:

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	$I_{F\ (AV)}$	50% duty cycle @Tc=124°C, rectangular wave form	15(Per Leg) 30(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse, T_C = 25 °C	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	0.52 0.60	0.54 0.68	V
	V_{F2}	@ 15A, Pulse, T_J = 125 °C @ 30A, Pulse, T_J = 125 °C	0.48 0.58	0.50 0.64	V
Reverse Current (Per Leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.02	1.00	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	10	70	mA
Junction Capacitance(Per Leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	750	900	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

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

Technical Data
Data Sheet N0612, Rev. A

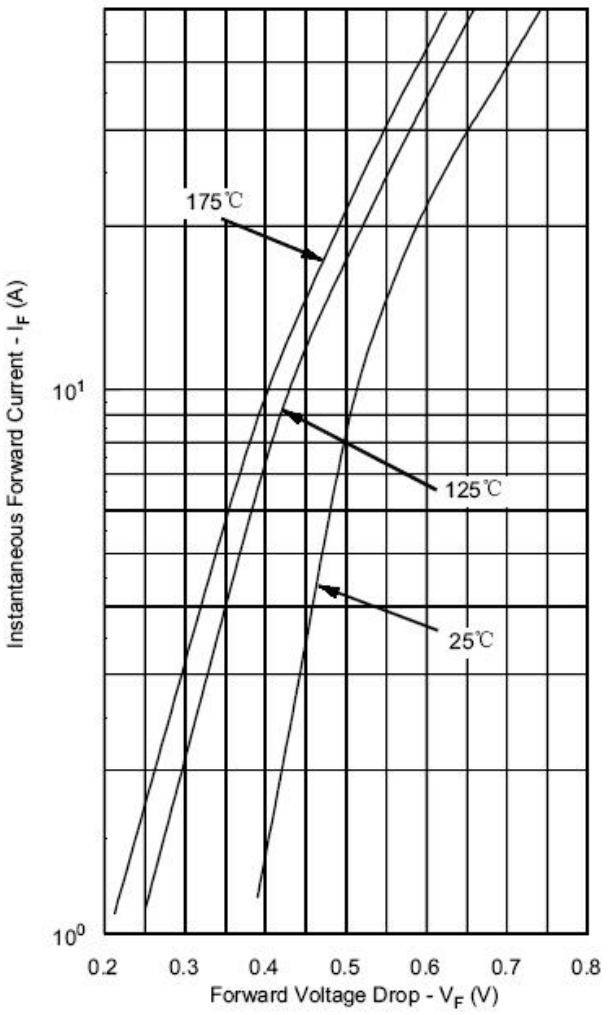
RoHS

Thermal-Mechanical Specifications:

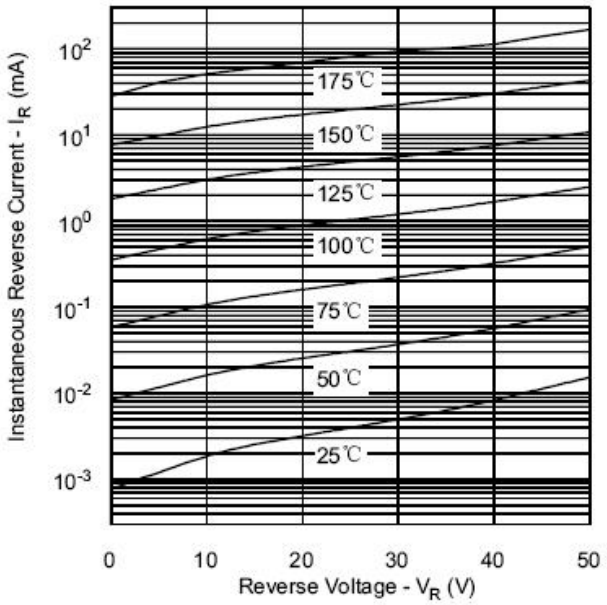
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.2(Peg Leg) 1.10(Peg Device)	°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta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

Ratings and Characteristics Curves

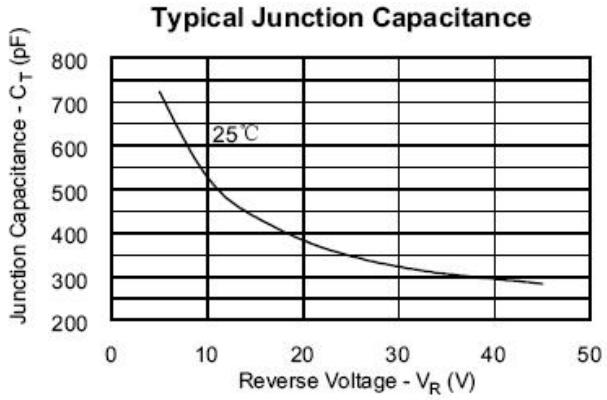
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

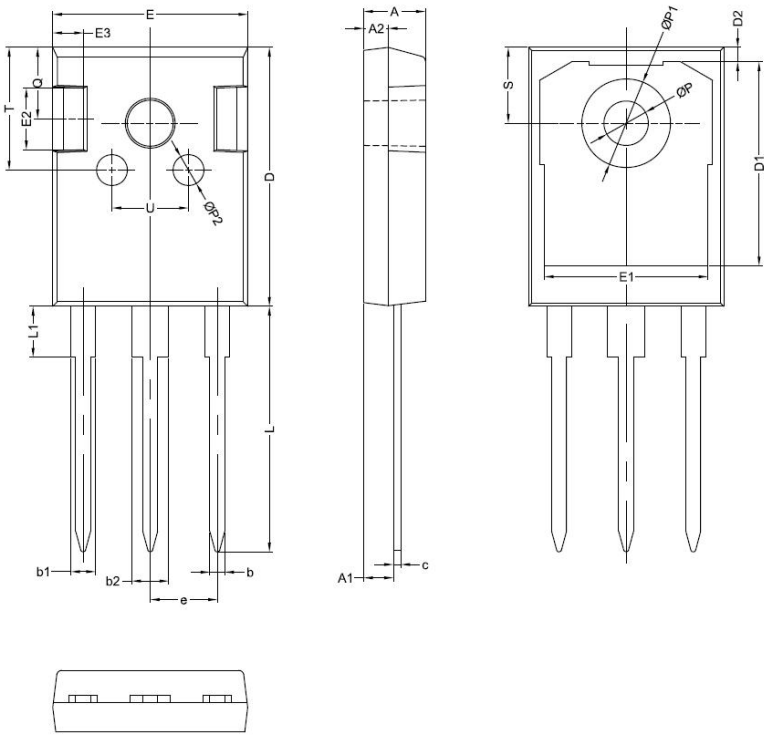


30CPQ035
30CPQ040
30CPQ045

Technical Data
Data Sheet N0612, Rev. A

RoHS

Mechanical Dimensions TO-247AD



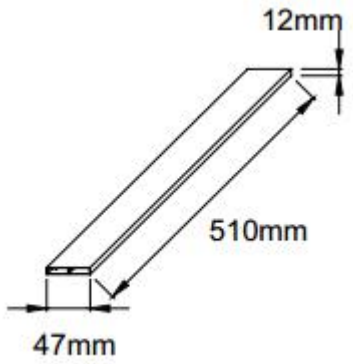
SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	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:

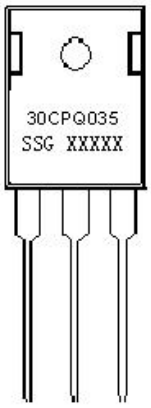
Device	Package	Shipping
30CPQ035(040)(045)	TO-247AD(Pb-Free)	25pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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

Technical Data
Data Sheet N0612, Rev. A

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