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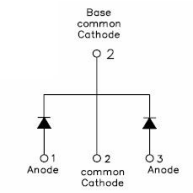
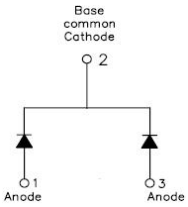
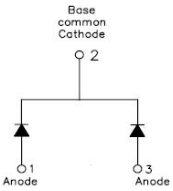
48CTQ060 /48CTQ060S /48CTQ060-1
SCHOTTKY RECTIFIER

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

Applications

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

48CTQ060	48CTQ060S	48CTQ060-1
		
		
TO-220AB	D^2PAK	TO-262

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	60	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @Tc=111°C, rectangular wave form	20(Per Leg) 40(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse, T_C = 25 °C	310	A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 20A, Pulse, T_J = 25 °C @ 40A, Pulse, T_J = 25 °C	0.59 -	0.61 0.83	V
	V_{F2}	@ 20A, Pulse, T_J = 125 °C @ 40A, Pulse, T_J = 125 °C	0.55 -	0.58 0.75	V
Reverse Current (Per Leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.03	2	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	28	150	mA
Junction Capacitance(Per Leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	835	1500	pF

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

Thermal-Mechanical Specifications:

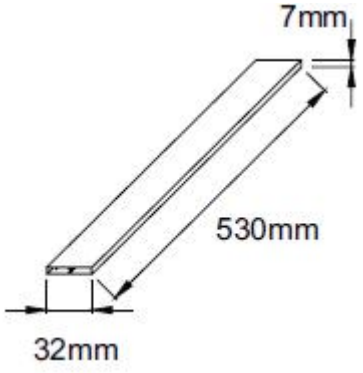
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.0	°C/W
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta JS}$	DC operation	0.5	°C/W
Case Style	TO-220AB D^2PAK TO-262			

Tube Specification

Device	Package	Weight	Shipping
48CTQ060	TO-220AB	1.8g	50pcs / tube
48CTQ060S	D^2 PAK	1.85g	800pcs / reel
48CTQ060-1	TO-262	1.85g	50pcs / 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(TO-220AB/TO-262)



Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

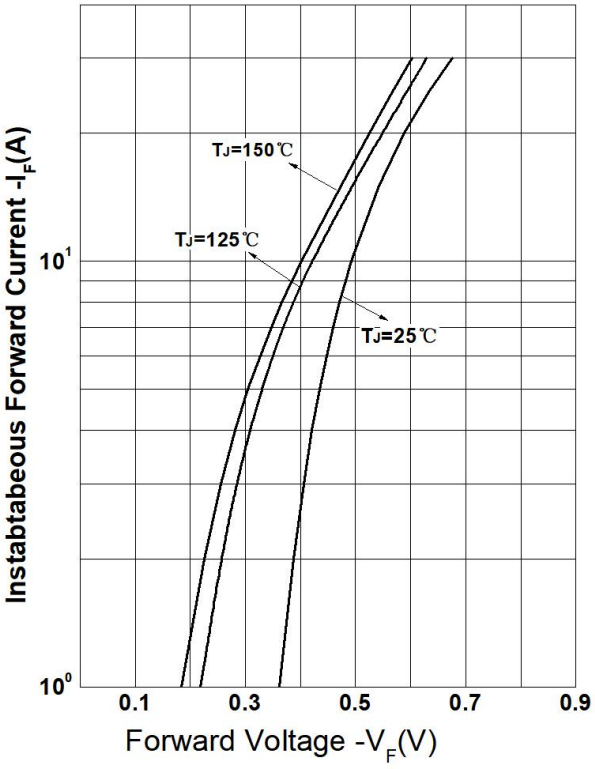


Figure 2
Typical Reverse Characteristics

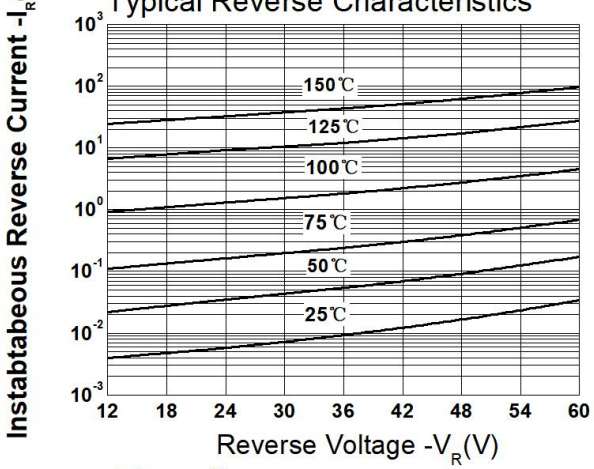
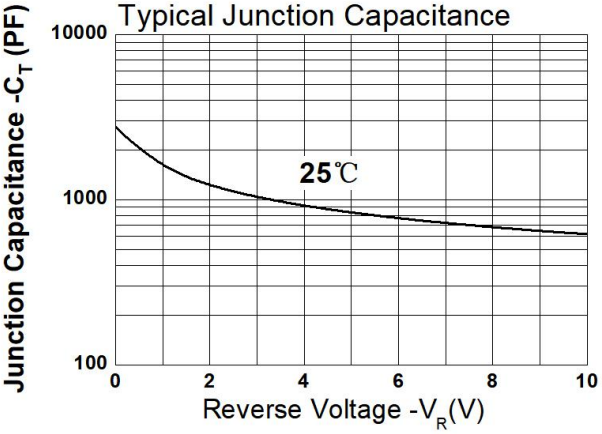


Figure 3
Typical Junction Capacitance

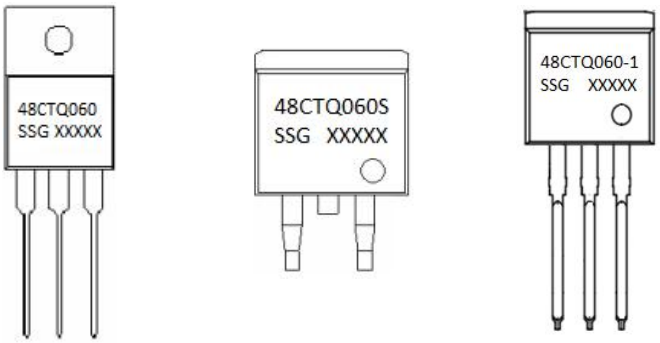


48CTQ060
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Marking Diagram

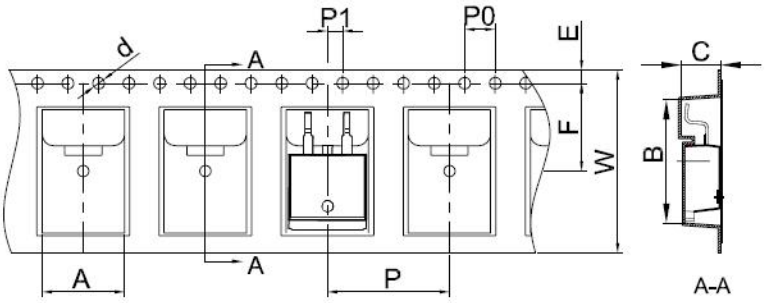


Where XXXXX is YYWWL

48	= Forward Current (48A)
C	= Configuration
TQ	= Device Type
60	= Reverse Voltage (60V)
S/-1	= Package type
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

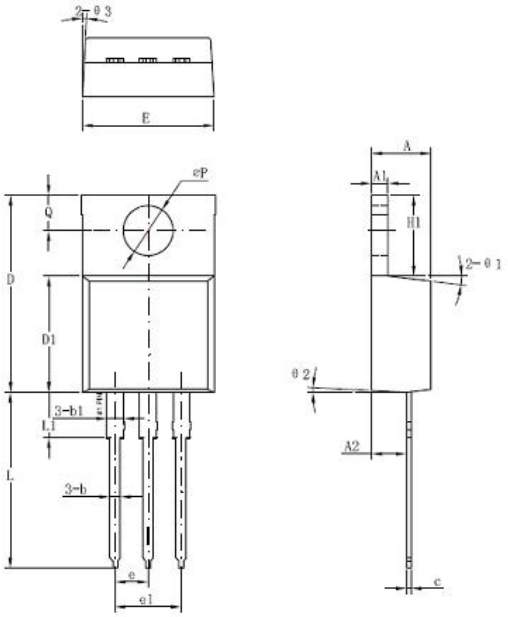
Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification D²PAK



Symbol	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Mechanical Dimensions TO-220AB

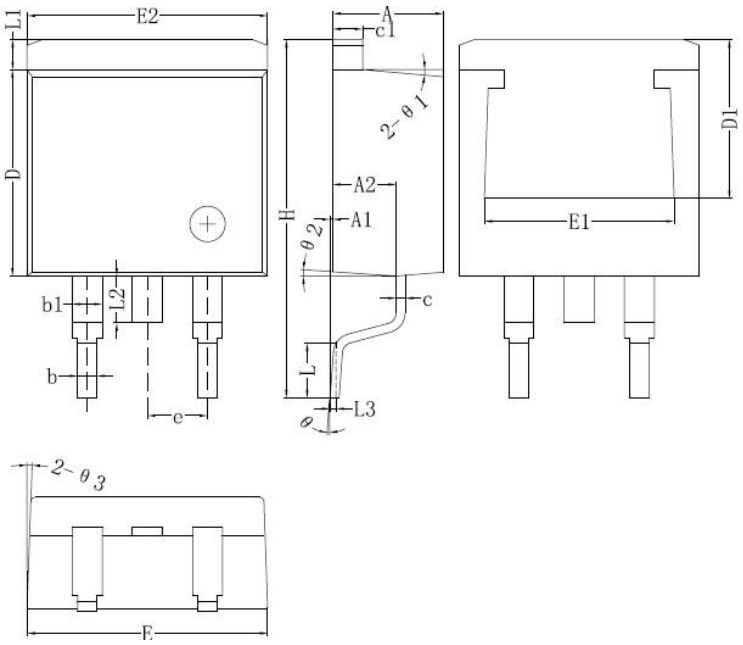


Symbol	Millimeters		
	Min.	Typical	Max.
A	**4.42**	**4.57**	**4.72**
A1	**1.17**	**1.27**	**1.37**
A2	**2.52**	**2.69**	**2.89**
b	**0.71**	**0.81**	**0.96**
b1	**1.17**	**1.27**	**1.37**
c	**0.31**	**0.38**	**0.61**
D	**14.94**	**15.24**	**15.54**
D1	**8.85**	**9.00**	**9.15**
E	**10.01**	**10.16**	**10.31**
e		**2.54**	
e1	**4.98**	**5.06**	**5.18**
H1	**6.04**	**6.24**	**6.44**
L	**12.7**	**13.56**	**13.80**
L1	**3.56**	**3.5**	**3.96**
ΦP	**3.74**	**3.84**	**4.04**
Q	**2.54**	**2.74**	**2.94**
Θ1		**7°**	
Θ2		**3°**	
Θ3		**4°**	

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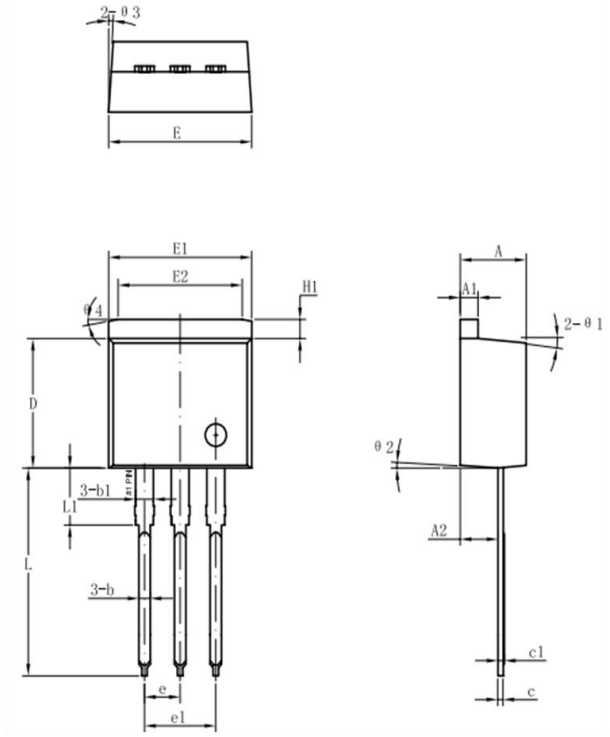
RoHS

Mechanical Dimensions D²PAK



Symbol	Millimeters		
	Min.	Typical	Max.
A	4.47	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
c1	1.17	1.27	1.37
D	8.50	8.70	8.90
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.31
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.74
L1	1.12	1.27	1.42
L2	1.30		2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

Mechanical Dimensions TO-262



Symbol	Millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

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