




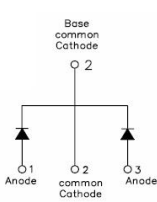
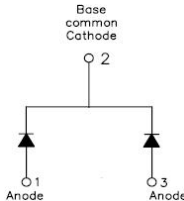
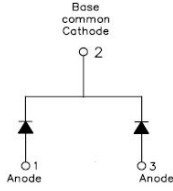
16CTQ.../16CTQ...S /16CTQ...-1 SCHOTTKY RECTIFIER

Features

- 150°C T_J operation
- Center tap configuration
- 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

Applications

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

16CTQ...	16CTQ...S	16CTQ...-1
		
		
TO-220AB	D ² PAK	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	-	80	V
			100	
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =105°C, rectangular wave form	8(Per Leg)	A
			16(Per Device)	
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	280	A

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 8A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.71	0.75	V
		@ 16A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.78	0.88	V
	V_{F2}	@ 8A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.55	0.58	V
		@ 16A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.63	0.69	V
Reverse Current (Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.0003	0.55	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	0.2	7.0	mA
Junction Capacitance(Per Leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	500	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μs

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

Thermal-Mechanical Specifications:

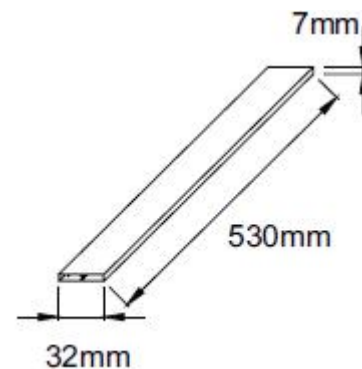
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	3.25	$^\circ\text{C/W}$
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta JL}$	DC operation	0.50	$^\circ\text{C/W}$
Case Style	TO-220AB D ² PAK TO-262			

Tube Specification

Device	Package	Weight	Shipping
16CTQ...	TO-220AB	1.8g	50pcs / tube
16CTQ...S	D ² PAK	1.85g	800pcs / reel
16CTQ...-1	TO-262	1.85g	50pcs / tube

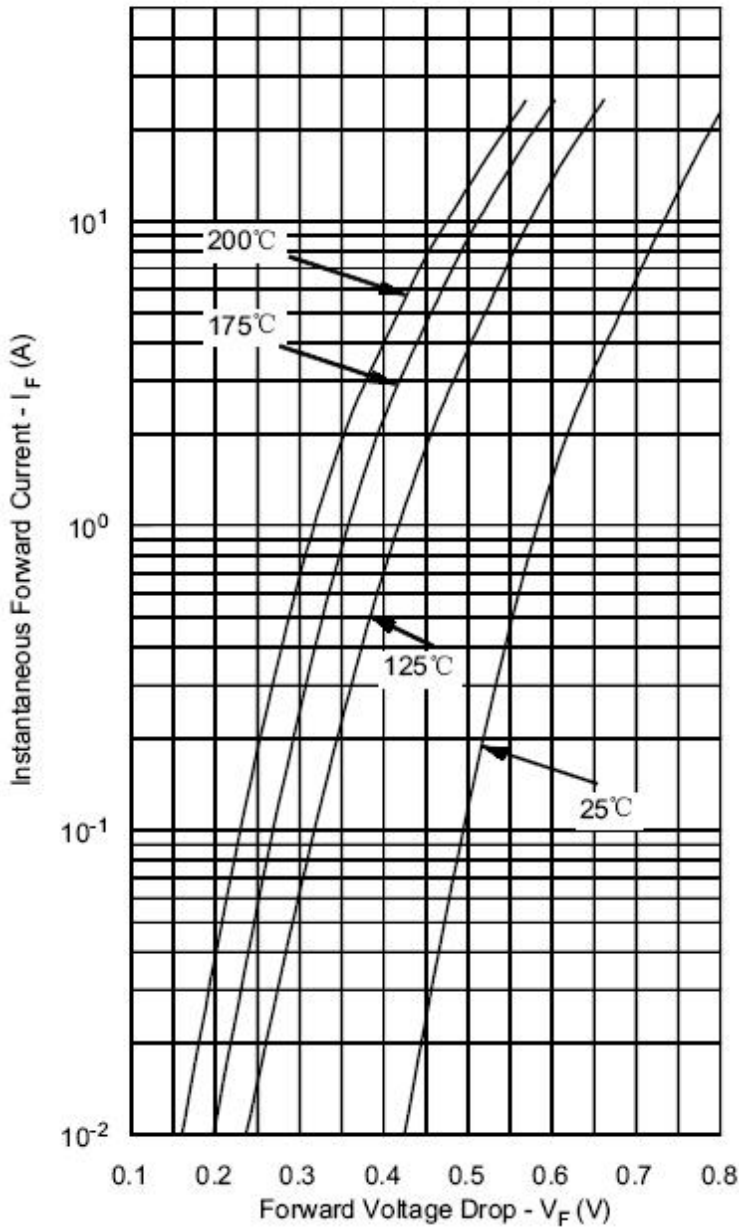
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Tube Specification(TO-220AB/TO-262)

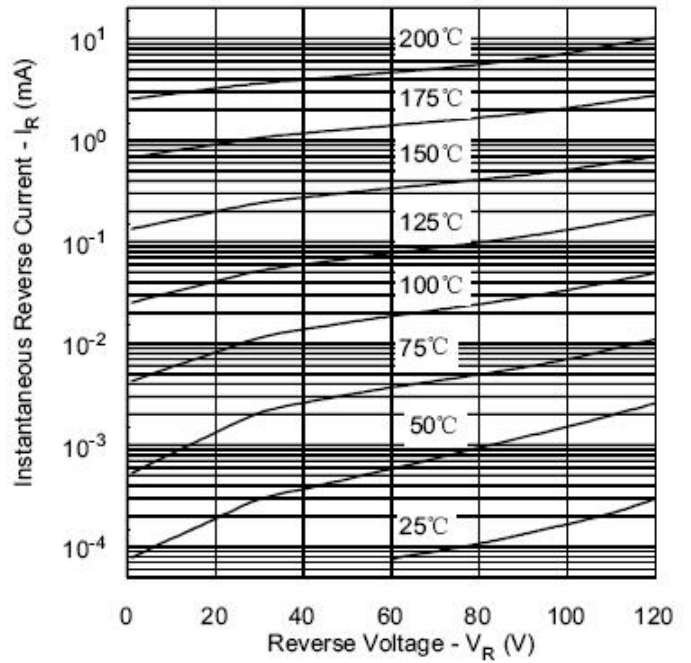


Ratings and Characteristics Curves

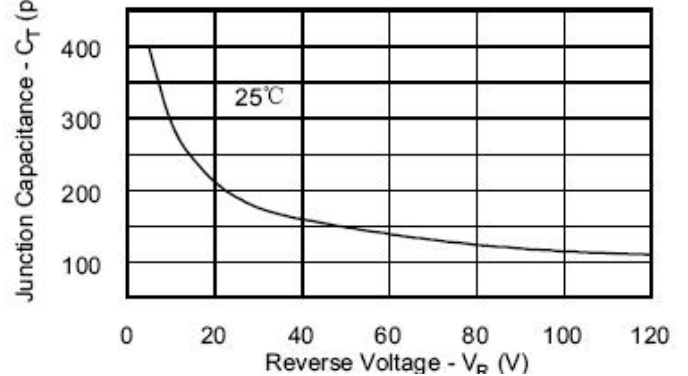
Typical Forward Characteristics



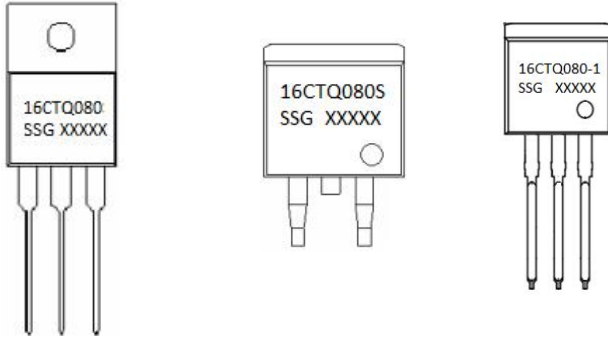
Typical Reverse Characteristics



Typical Junction Capacitance



Marking Diagram

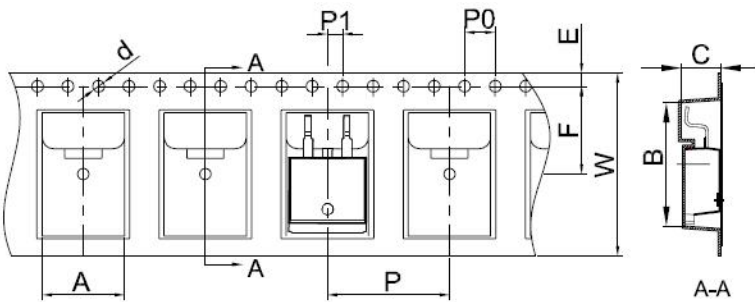


Where XXXXX is YYWWL

- 16 = Forward Current (16A)
- C = Configuration
- TQ = Device Type
- 80/100 = Reverse Voltage (80V/100V)
- S/-1 = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

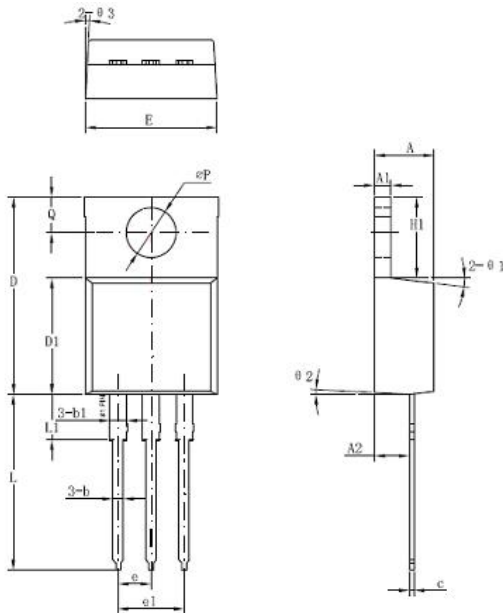
Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification D²PAK



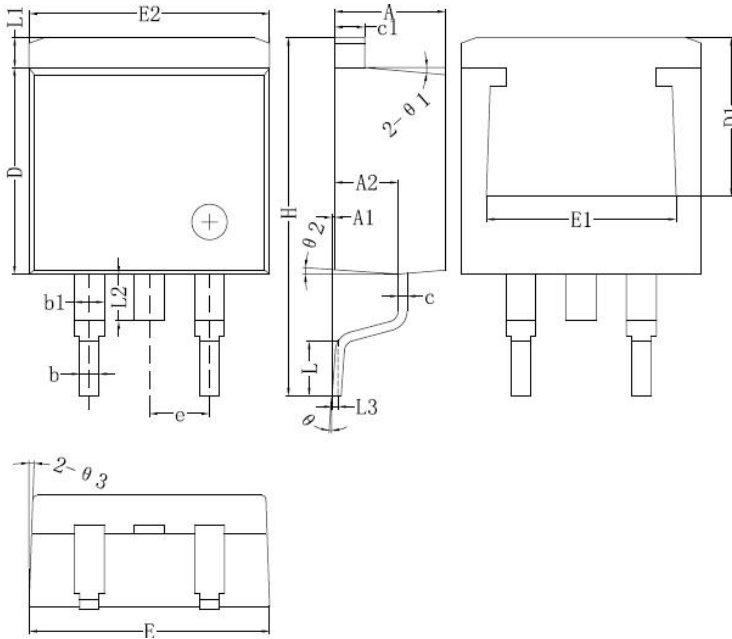
Symbol	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Mechanical Dimensions TO-220AB



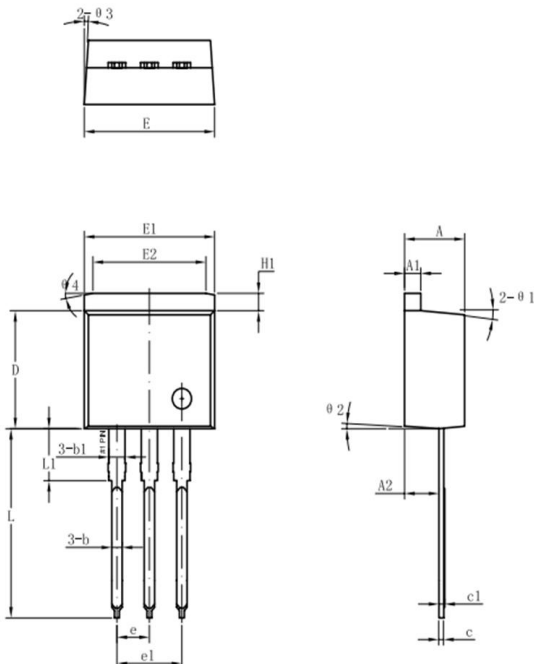
Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E	9.65	-	10.67
e	-	2.54	-
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
øP	-	3.56	-
Q	2.54	-	3.43

Mechanical Dimensions D²PAK



Symbol	Dimensions in millimeters	
	Min.	Max.
A	4.06	4.83
A1	0	0.26
b	0.51	0.99
b1	1.14	1.78
c	0.31	0.74
c1	1.14	1.65
D	8.38	8.65
D1	6.86	
E1	6.22	
E2	9.65	10.67
e	2.54BSC	
H	14.60	15.88
L	1.78	2.80
L1	-	1.68
L2	-	1.78
L3	0.255BSC	
Θ	0	8°

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°	



16CTQ080/100
16CTQ080/100/S
16CTQ080/100/-1

Technical Data
Data Sheet N0610, Rev. B



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