





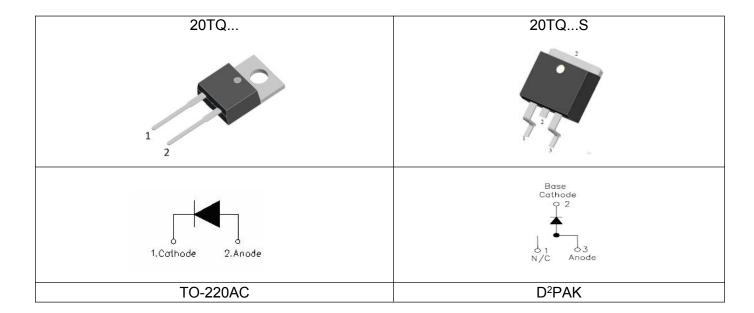
20TQ035/S 20TQ040/S 20TQ045/S SCHOTTKY RECTIFIER

Features

- 150[°]C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- 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
- · Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection



Maximum Ratings:

Characteristics	Symbol	Condition		Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	35	20TQ035	
Working Peak Reverse Voltage	V_{RWM}		40	20TQ040	V
DC Blocking Voltage	V_R		45	20TQ045	
Average Rectified Forward Current	I _{F (AV)}	50% duty cycle @Tc=116°C, rectangular wave form		20	Α
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse		480	Α

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Electrical Characteristics:

Characteristics	Symbol	Condition	Тур.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 20A, Pulse, T _A = 25 °C @ 40A, Pulse, T _A = 25 °C	0.55 0.70	0.57 0.73	٧
	V _{F2}	@ 20A, Pulse, T _A = 75 °C @ 40A, Pulse, T _A = 75 °C	-	0.51 0.67	V
Reverse Current *	I _{R1}	$@V_R = \text{rated } V_R$ $T_J = 25 \ ^{\circ}C$	0.02	2.7	mA
	I _{R2}	$@V_R = \text{rated } V_R$ $T_J = 100 ^{\circ}\mathbb{C}$	3	105	mA
Junction Capacitance	Ст	@ V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	710	1650	pF
Series Inductance	Ls	Measured lead to lead 5 mm from package body	8.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

 $^{^{\}star}\,$ Pulse width < 300 $\mu s,\,$ duty cycle < 2%

Thermal-Mechanical Specifications:

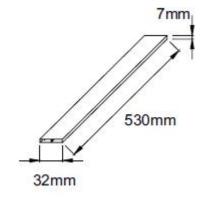
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	TJ	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R _θ JC	DC operation	1.5	°C/W
Case Style	TO-220AC D ² PAK			

Tube Specification

Device	Package	Weight	Shipping
20TQ	TO-220AC	1.8g	50pcs / tube
20TQS	D² PAK	1.85g	800pcs / reel

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-220AC)





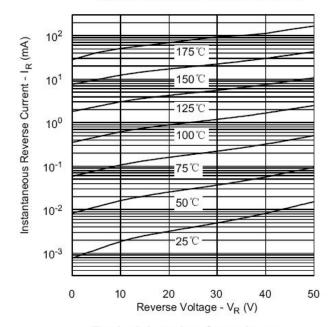




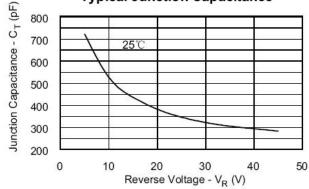
Ratings and Characteristics Curves

Typical Forward Characteristics

Typical Reverse Characteristics







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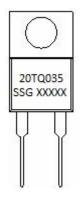
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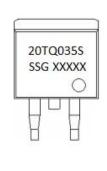






Marking Diagram





Where XXXXX is YYWWL

20 TQ = Forward Current (20A)

= Device Type = Reverse Voltage (35/40/45V) 35/40/45

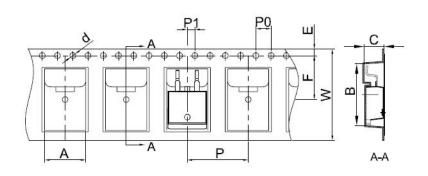
S = Package type

SSG = SSG ΥY = Year = Week WW = Lot Number

Cautions: Molding resin

Epoxy resin UL:94V-0

Carrier Tape Specification D²PAK



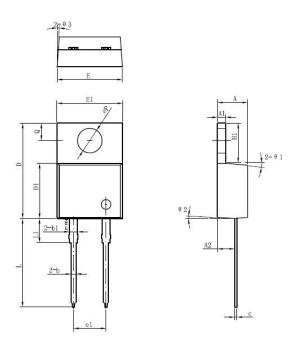
Symbol	Millimeters		
Symbol	Min.	Max.	
А	10.70	10.90	
В	16.03	16.23	
С	5.11	5.31	
d	1.45	1.65	
E	1.65	1.85	
F	11.40	11.60	
P0	3.90	4.10	
Р	15.90	16.10	
P1	1.90	2.10	
W	23.90	24.30	





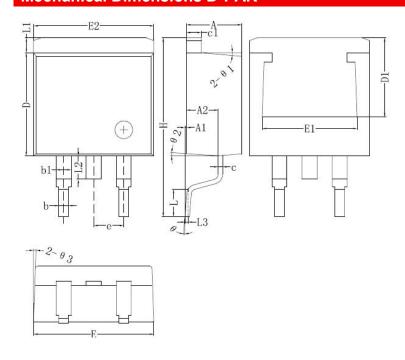


Mechanical Dimensions TO-220AC



Symbol	Dimensions in millimeters			
	Min.	Typical	Max.	
Α	4.47	4.70	4.85	
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	
С	0.31	0.38	0.61	
D	14.64	14.94	15.24	
D1	8.50	8.07	8.90	
E	10.01	10.16	10.31	
E1	9.98	10.18	10.38	
e1	4.98	5.08	5.18	
H1	6.04	6.24	6.44	
L	13.00	13.86	14.08	
L1	3.56	3.80	3.96	
ФР	3.74	3.84	4.04	
Q	2.54	2.74	2.94	
Θ1		5°		
Θ2		4°		
Θ3		4°		

Mechanical Dimensions D²PAK



Symbol	Millimeters				
	Min.	Typical	Max.		
Α	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		
С	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		
е		2.54			
Н	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			
е	0	-	8°		
e1		5°			
e2		4°			
e3		4°			

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