Technical Data *Green Products*

Data Sheet N1065, Rev. -

10TQ035/S 10TQ040/S 10TQ045/S SCHOTTKY RECTIFIER

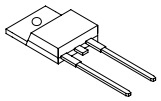
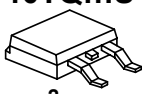
Applications:

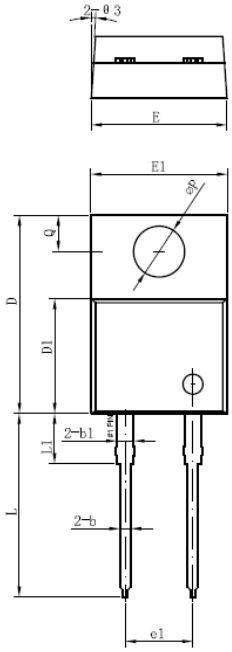
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection

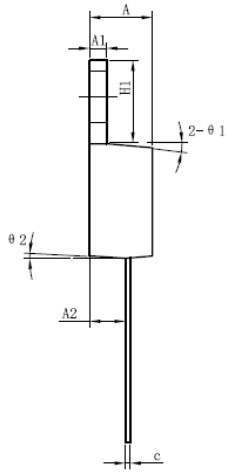
Features:

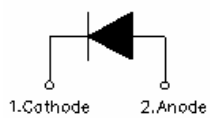
- 175℃ T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions: In mm / Inches

Case styles	
10TQ…	10TQ…S
	
TO-220AC	D^2PAK

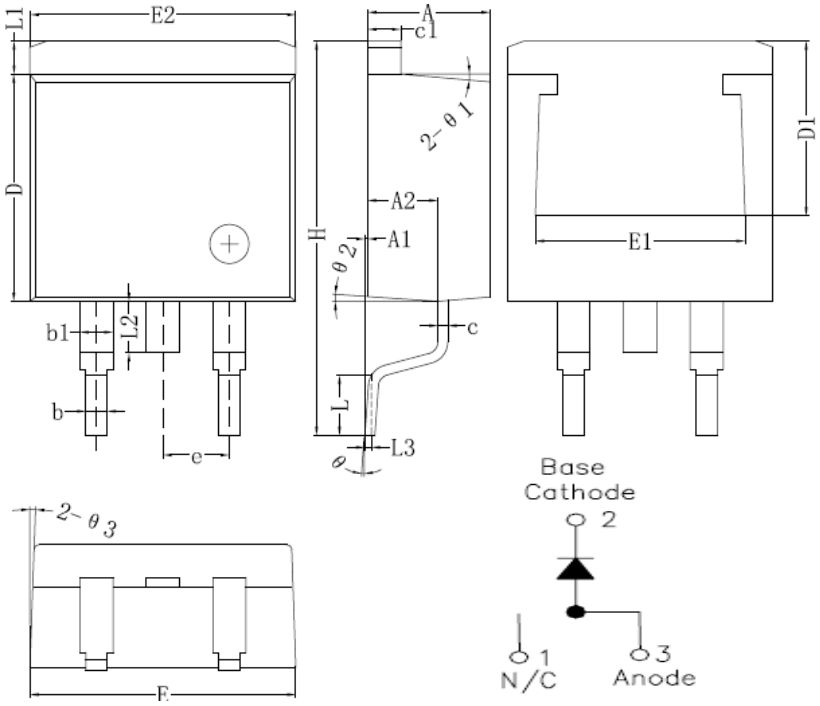






Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.07	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		5°	
Θ2		4°	
Θ3		4°	

TO-220AC



Symbol	Dimensions in 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°	

D^2PAK

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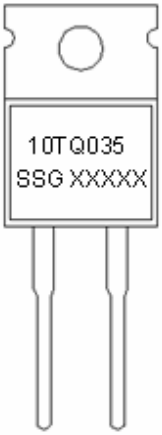
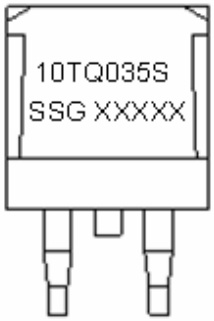
Marking Diagram:



10TQ035



10TQ035S

Where XXXXX is YYWWL

10TQ035 = Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
10TQ035	TO-220AC (Pb-Free)	50pcs / tube
10TQ035S	D^2 PAK (Pb-Free)	800pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	35(10TQ035) 40(10TQ040) 45(10TQ045)	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @T_C =164°C, rectangular wave form	10	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	330	A
Non-Repetitive Avalanche Energy	E_{AS}	T_J=25℃,I_{AS}=2A,L=6.5mH	13	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max.V_A=1.5×V_R typical	2	A

Electrical Characteristics:

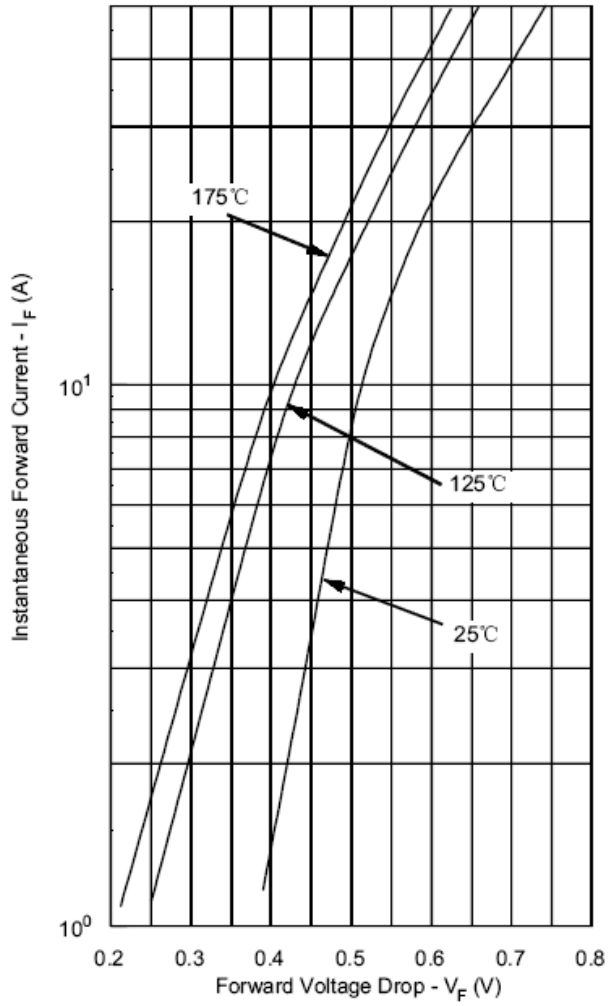
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@ 10A, Pulse, T_J = 25 °C @ 20A, Pulse, T_J = 25 °C	0.57 0.70	V
	V_{F2}	@ 10A, Pulse, T_J = 125 °C @ 20A, Pulse, T_J = 125 °C	0.49 0.61	V
Max. Reverse Current at DC condition	I_{R1}	@V_R = rated V_R T_J = 25 °C	2.0	mA
Max. Reverse Current	I_{R2}	@V_R = rated V_R T_J = 125 °C	15	mA
Max. Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	900	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change(Rated V_R)	dv/dt	-	10,000	V/μs

* Pulse Width < 300μs, Duty Cycle <2%

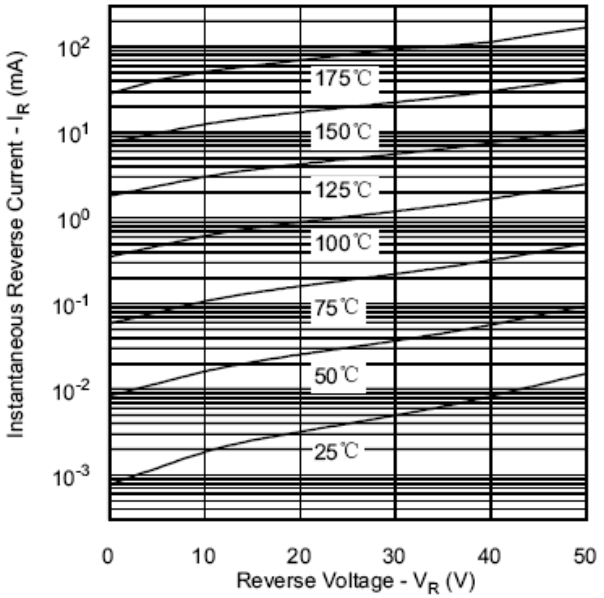
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	°C
Max. Storage Temperature	T_{stg}	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	2.0	°C/W
Typical Thermal Resistance,case to Heat Sink	$R_{\theta cs}$	Mounting surface,smooth and greased	0.50	°C/W
Approximate Weight	wt	-	1.8/1.85	g
Case Style	TO-220AC,D^2PAK(Suffix"s"for D^2PAK)			

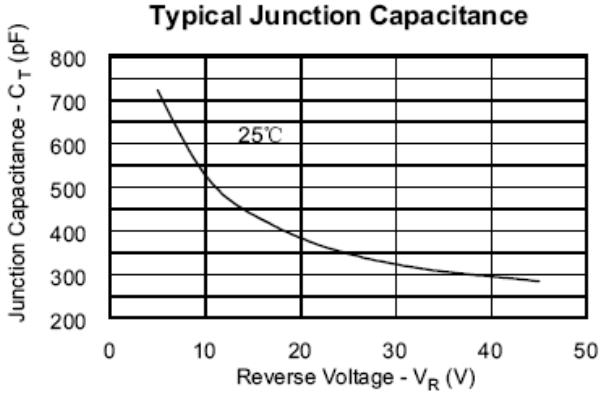
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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