


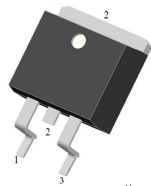
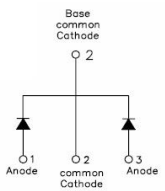
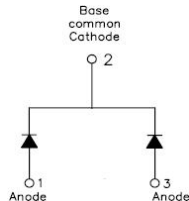
## 15CTQ.../15CTQ...S SCHOTTKY RECTIFIER

### Features

- 150 °C T<sub>J</sub> 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

15CTQ...	15CTQ...S
	
	
TO-220AB	D <sup>2</sup> PAK

### Maximum Ratings@T<sub>c</sub>=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	35(15CTQ035)	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		40(15CTQ040)	
DC Blocking Voltage	V <sub>R</sub>		45(15CTQ045)	
Average Rectified Forward Current	I <sub>F(AV)</sub>	T <sub>c</sub> =112°C, In DC	7.5(Per Leg) 15(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(per leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse	180	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg)*	V <sub>F1</sub>	@ 7.5A, Pulse, T <sub>J</sub> = 25 °C @ 15A, Pulse, T <sub>J</sub> = 25 °C	0.51 0.63	0.84	V
	V <sub>F2</sub>	@ 7.5A, Pulse, T <sub>J</sub> = 125 °C @ 15A, Pulse, T <sub>J</sub> = 125 °C	0.45 0.59	0.72	V
Reverse Current (per leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	0.01	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	5	15	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	360	400	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

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

### Thermal-Mechanical Specifications:

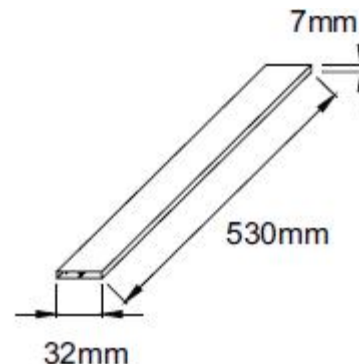
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case(per leg)	R <sub>θJC</sub>	DC operation	3	°C/W
Typical Thermal Resistance, case to Heat Sink	R <sub>θCS</sub>	Mounting surface, smooth and greased	0.5	°C/W
Case Style	TO-220AB D <sup>2</sup> PAK			

### Tube Specification

Device	Package	Weight	Shipping
15CTQ...	TO-220AB	1.8g	50pcs / tube
15CTQ...S	D <sup>2</sup> 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-220AB)



**Ratings and Characteristics Curves**

Figure 1 Typical Forward Characteristics

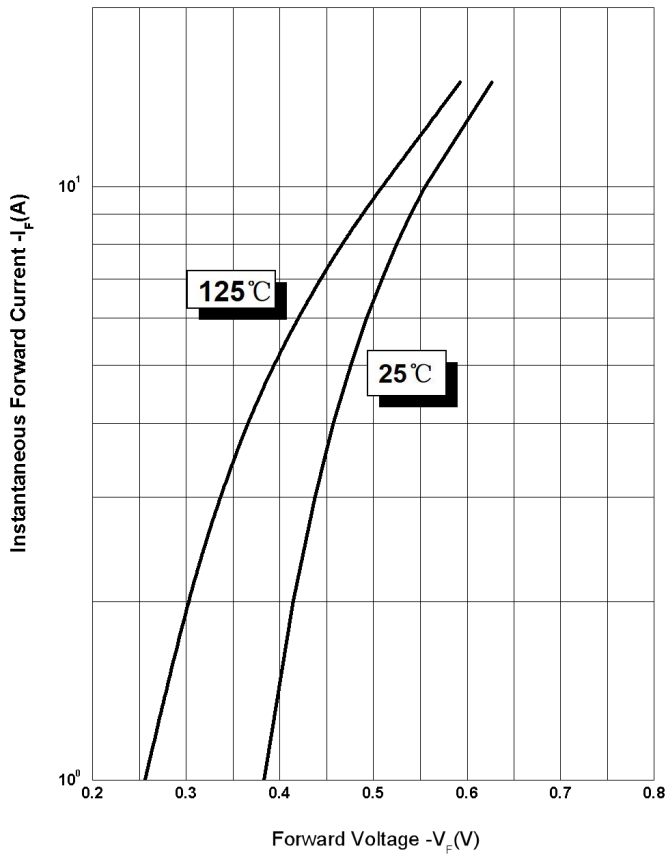


Figure 2 Typical Reverse Characteristics

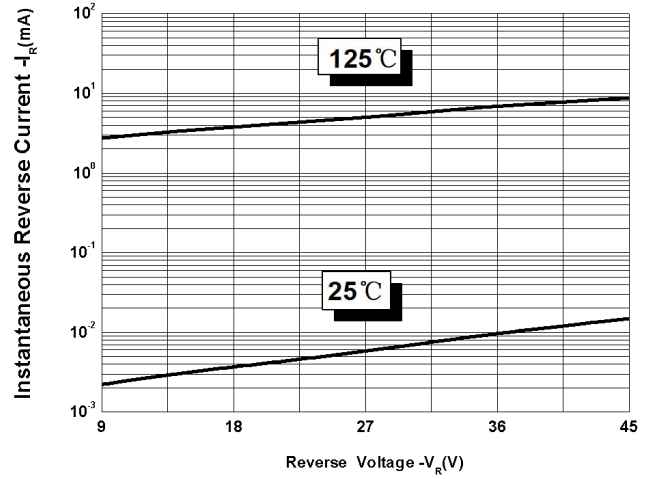
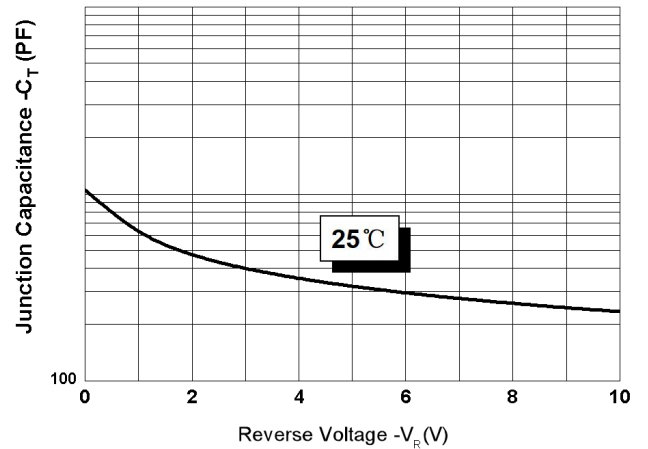
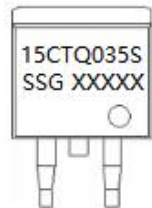
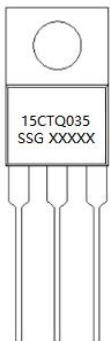


Figure 3 Typical Junction Capacitance



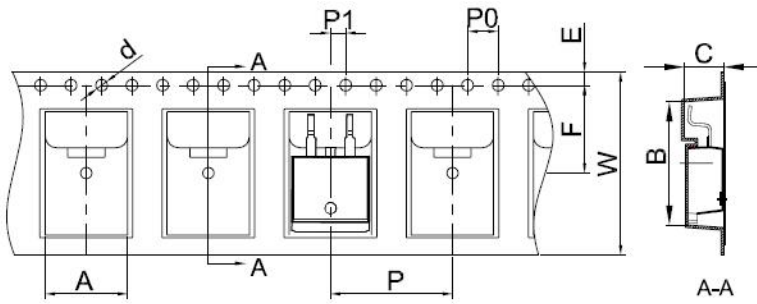
**Marking Diagram**



Where XXXXX is YYWWL

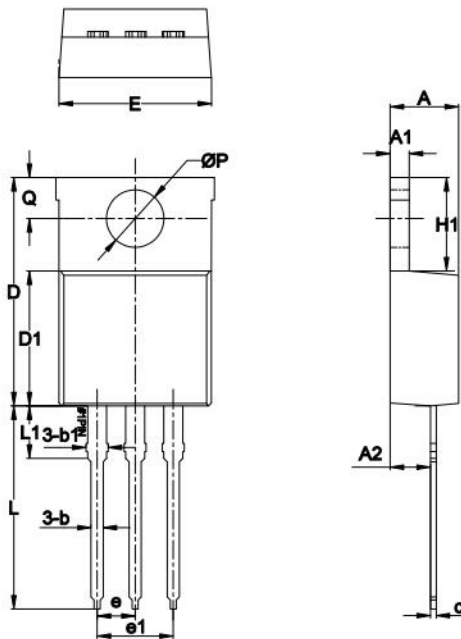
- 15CTQ035/S = Part Name
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Carrier Tape Specification D<sup>2</sup>PAK**



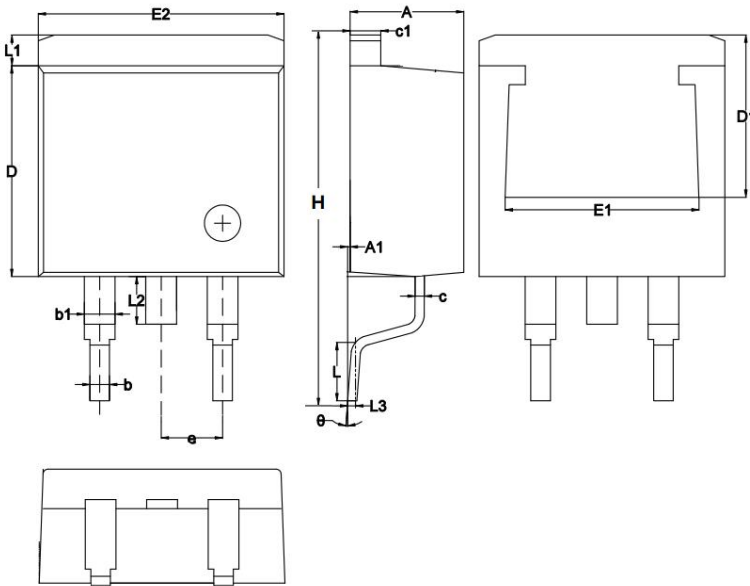
Symbol	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

**Mechanical Dimensions TO-220AB**



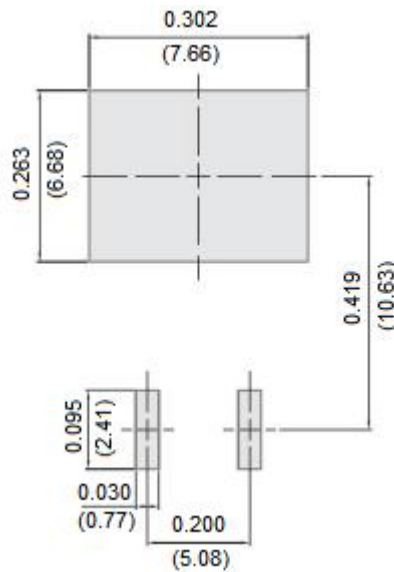
Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.4
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E	9.65	-	10.67
e	-	2.54	-
e1	-	5.08	-
H1	5.84	-	6.86
L	12.7	-	14.73
L1	-	-	6.35
ØP	-	3.56	-
Q	2.54	-	3.43

**Mechanical Dimensions D<sup>2</sup>PAK**



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	9.65
D1	6.4	
E1	6.22	
E2	9.65	10.67
e	2.54BSC	
H	14.6	15.88
L	1.78	2.8
L1	-	1.68
L2	-	2.2
L3	0.255BSC	
θ	0	8°

**Suggested PCB Pinfoot Layout D<sup>2</sup>PAK(Inches/mm)**



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