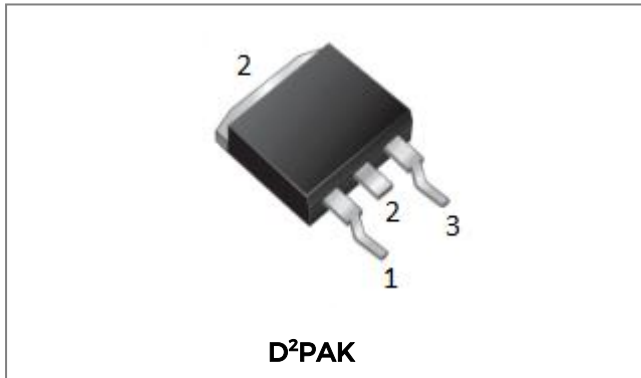


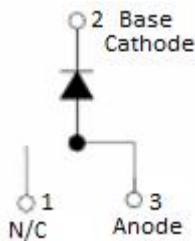
## 18TQ035S 18TQ045S SCHOTTKY RECTIFIER



### Features

- 150 °C T<sub>J</sub> 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
- 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

### Circuit Diagram



### Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

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

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	18TQ035S(35)	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		18TQ045S(45)	
DC Blocking Voltage	V <sub>R</sub>			
Average Rectified Forward Current	I <sub>F(AV)</sub>	T <sub>c</sub> =134°C, In DC	18	A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3ms, Half Sine pulse	390	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C	0.41	0.50	V
	V <sub>F2</sub>	@ 18A, Pulse, T <sub>J</sub> = 25 °C	0.50	0.60	V
Reverse Current at DC condition*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.08	2.5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	15	30	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>c</sub> = 25 °C f <sub>SIG</sub> = 1MHz	680	1400	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	$T_J$	-	-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	1.5	$^{\circ}\text{C}/\text{W}$
Approximate Weight	wt	-	1.85	g
Case Style	D <sup>2</sup> PAK			

**Ratings and Characteristics Curves**

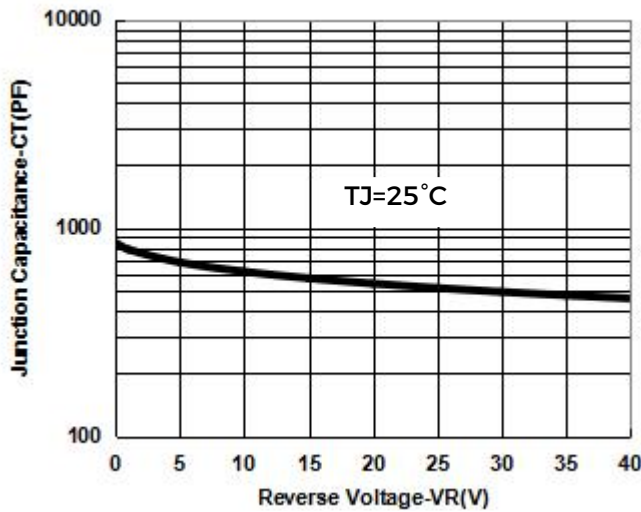


Fig.1-Typical Junction Capacitance

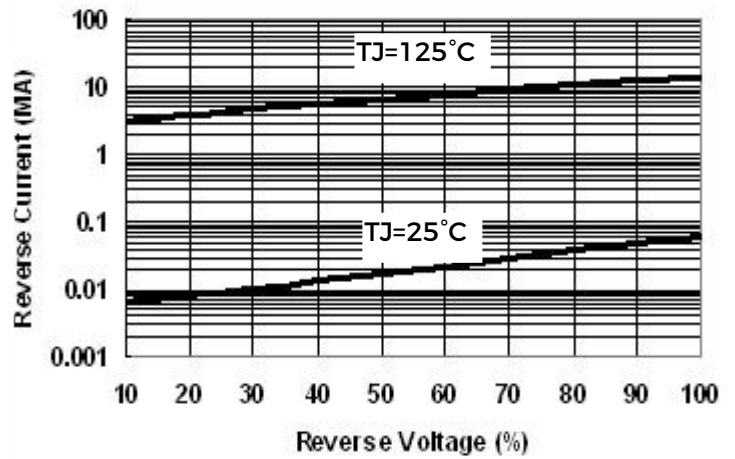


Fig.2-Typical Reverse Characteristics

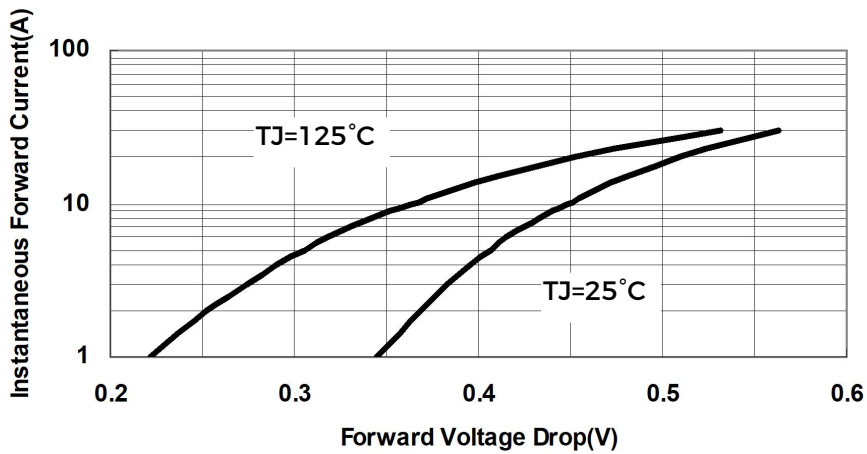
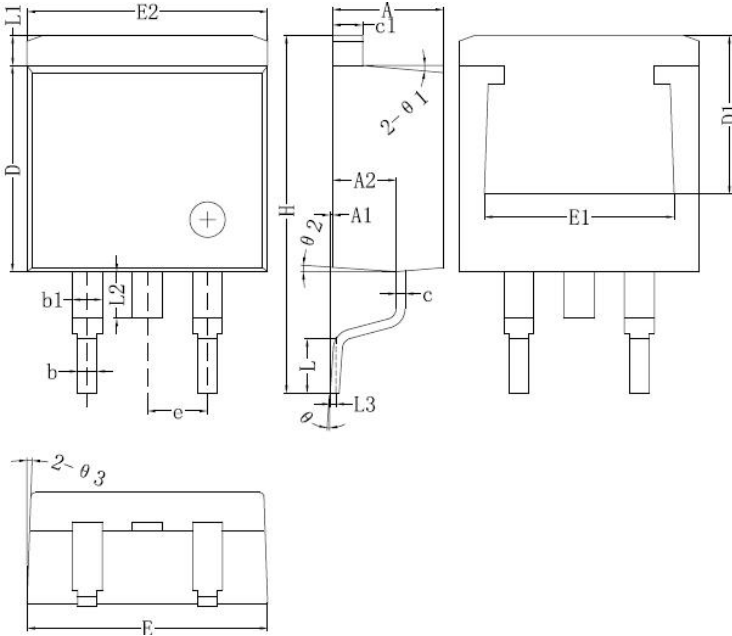


Fig.3-Typical Instantaneous Forward Voltage Characteristics

**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°

**Ordering Information**

Device	Package	Shipping
18TQ035S	D <sup>2</sup> PAK	800pcs / reel
18TQ045S		
18TQ035STR	D <sup>2</sup> PAK	800pcs / reel
18TQ045STR		

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

**Marking Diagram**

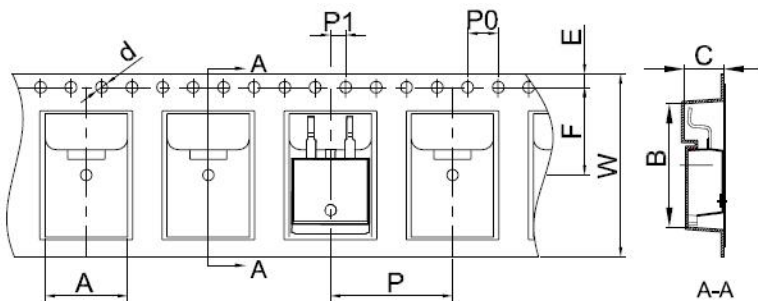


Where XXXXX is YYWWL

- 18 = Forward Current (18A)
- TQ = Device Type
- 35/45 = Reverse Voltage(45V)
- S = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Caution:** Molding resin  
Epoxy resin UL94V-0

**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

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