

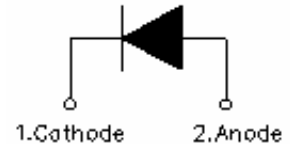
15TQ045-S SCHOTTKY RECTIFIER

Applications:

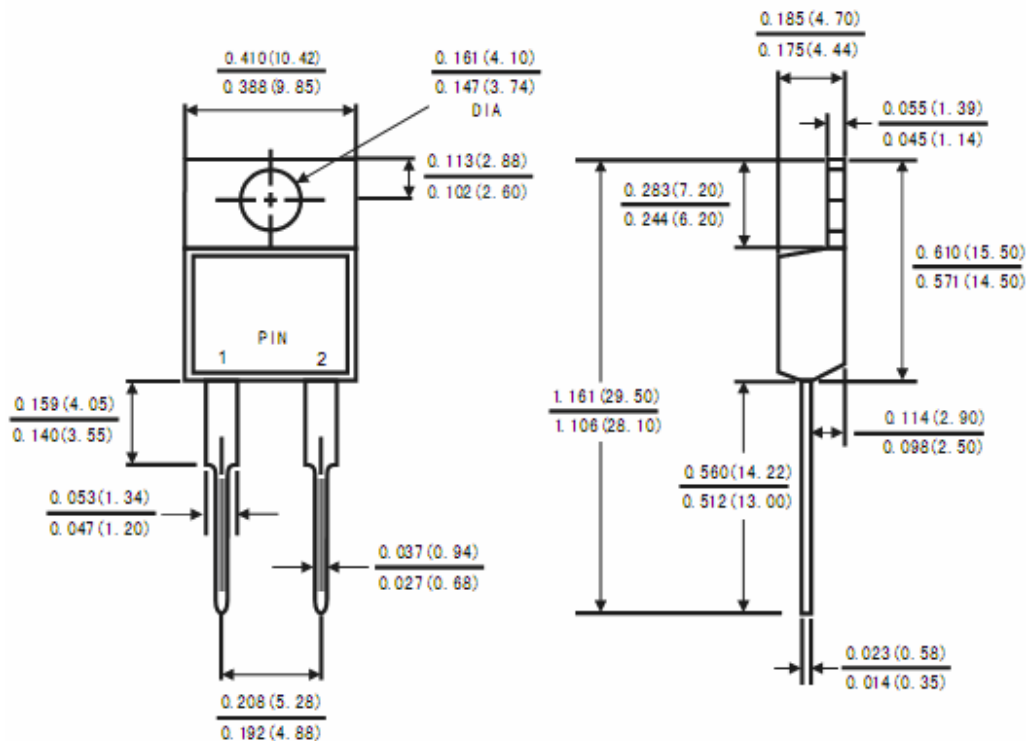
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

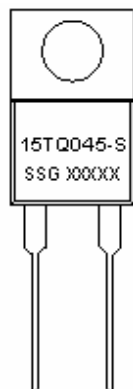
- 175°C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable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



Mechanical Dimensions: In Inches/mm



TO-220AC(HY)

Marking Diagram:


Where XXXXX is YYWWL

 15TQ045-S = Part Name
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

Ordering Information:

Device	Package	Shipping
15TQ045-S	TO-220AC (Pb-Free)	50pcs / tube

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}	-	45	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=116^\circ\text{C}$, rectangular wave form	15	A
Peak One Cycle Non- Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	400	A
Non-repetitive avalanche energy	E_{as}	$T_J = 25^\circ\text{C}$, $L = 1\text{mH}$, $I_{AS} = 5\text{ A}$	15	mJ
Repetitive avalanche current	I_{AR}	I_{AS} decay linearly to 0 in $1\ \mu\text{s}$ Frequency limited by T_J max. $V_A = 1.5 V_R$	5	A
ESD-rating	ESD	level 2, human body model	4	KV

Electrical Characteristics:

Characteristics	Symbol	Condition	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	V_{BR}	@ 100 μ A, Pulse, $T_A = 25\text{ }^\circ\text{C}$	48	-	-	V
Forward Voltage Drop	V_{F1}	@ 10A, Pulse, $T_A = 25\text{ }^\circ\text{C}$ @ 15A, Pulse, $T_A = 25\text{ }^\circ\text{C}$	-	0.50 0.54	0.53 0.58	V
Forward Voltage Drop	V_{F1}	@ 10A, Pulse, $T_A = 125\text{ }^\circ\text{C}$ @ 15A, Pulse, $T_A = 125\text{ }^\circ\text{C}$	-	0.42 0.46	0.45 0.50	V
Reverse Current *	I_{R1}	@ $V_R = 20\text{V}$, $T_J = 25\text{ }^\circ\text{C}$ @ $V_R = \text{rated } V_R$, $T_J = 25\text{ }^\circ\text{C}$	-	4 15	50 150	μ A
Reverse Current *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 125\text{ }^\circ\text{C}$ @ $V_R = 20\text{V}$, $T_J = 150\text{ }^\circ\text{C}$	-	10 15	15 50	mA
Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	-	1533	1700	pF

* Pulse Width < 300 μ s, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	2.0	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	TO-220AC			



Figure 1
Typical Forward Characteristics

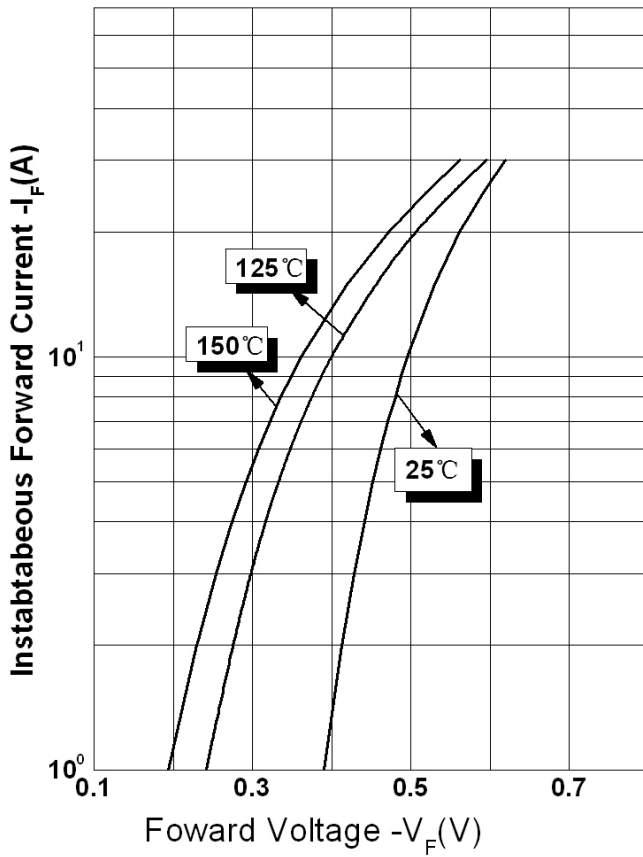


Figure 2
Typical Reverse Characteristics

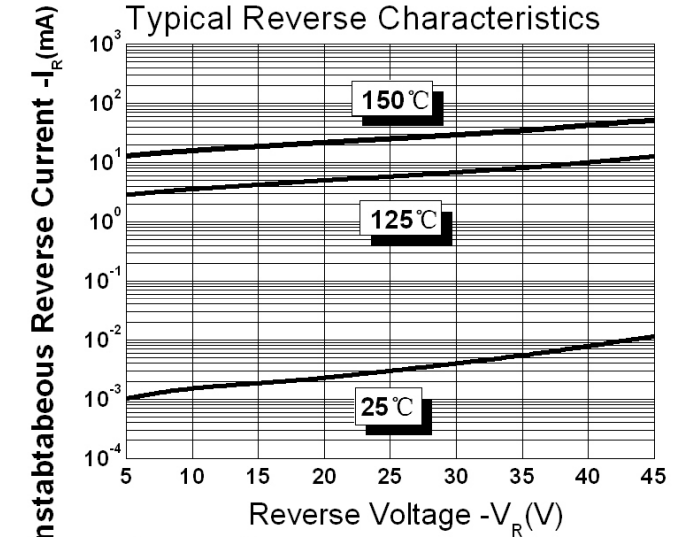
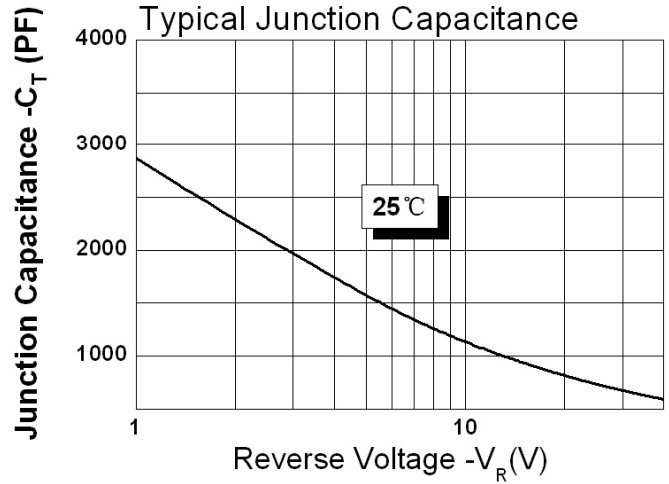


Figure 3
Typical Junction Capacitance





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