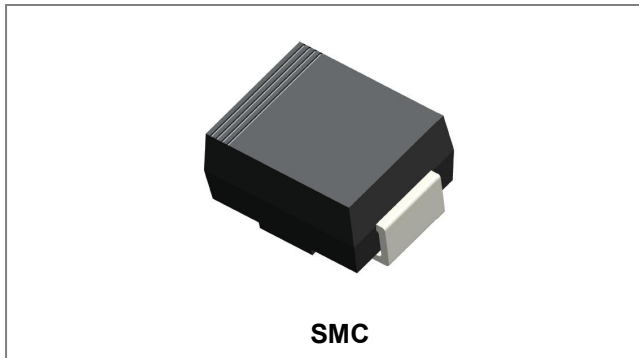


## 30BQ040 SCHOTTKY RECTIFIER



### Features

- Small foot print, surface mountable
- 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

### Circuit Diagram



### Applications

- Disk Drives
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery Charging

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	40	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=118^\circ\text{C}$ , rectangular wave form	3.0	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse, $T_C=25^\circ\text{C}$	132	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 3 A, Pulse, $T_J = 25^\circ\text{C}$ @ 6 A, Pulse, $T_J = 25^\circ\text{C}$	0.50 0.65	0.53 0.68	V
	$V_{F2}$	@ 3 A, Pulse, $T_J = 125^\circ\text{C}$ @ 6 A, Pulse, $T_J = 125^\circ\text{C}$	0.40 0.55	0.43 0.57	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{Rated } V_R$ , Pulse, $T_J = 25^\circ\text{C}$	0.01	0.5	mA
	$I_{R2}$	@ $V_R = \text{Rated } V_R$ , Pulse, $T_J = 100^\circ\text{C}$	7	30	mA
Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	130	230	pF
Series Inductance	$L_S$	Measured lead to lead 5 mm from package body	3.0	-	nH
Voltage Rate of Change	$dv/dt$	-	-	10,000	V/ $\mu\text{s}$

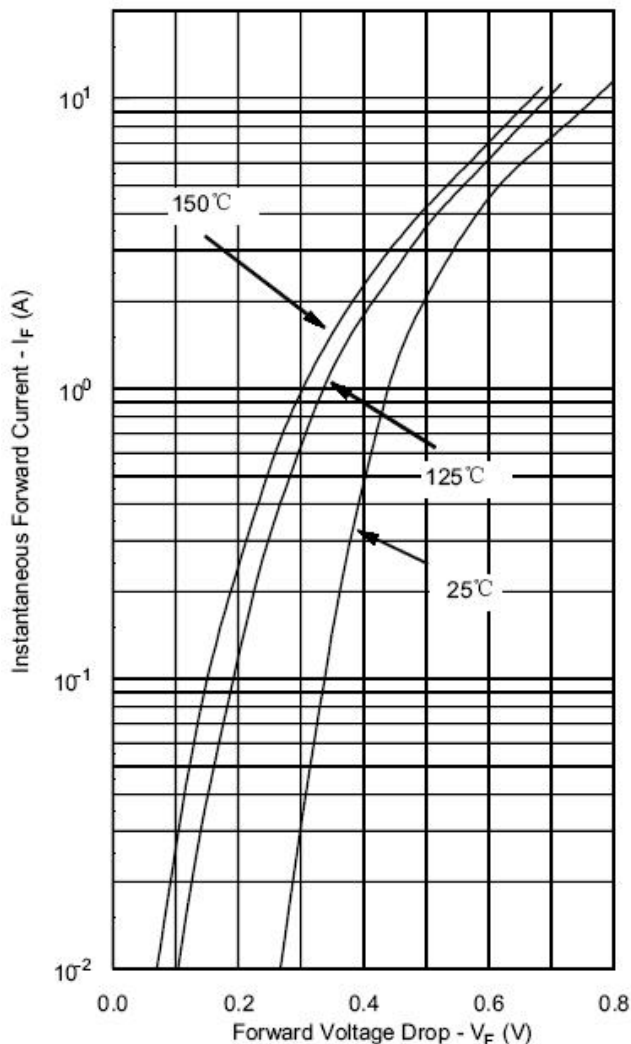
\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

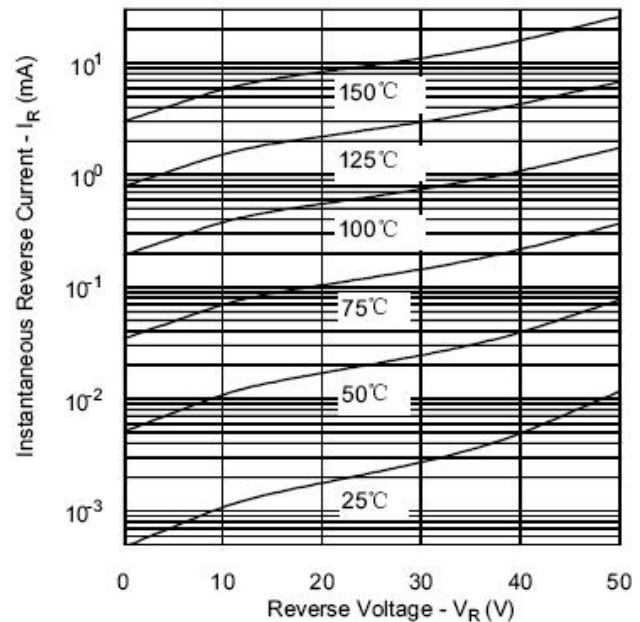
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +125	°C
Storage Temperature	$T_{stg}$	-	-55 to +150	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	-	12	°C/W
Typical Thermal Resistance Junction to Case	$R_{\theta JA}$	DC operation	46	°C/W
Approximate Weight	wt	-	0.21	g
Case Style	SMC			

**Ratings and Characteristics Curves**

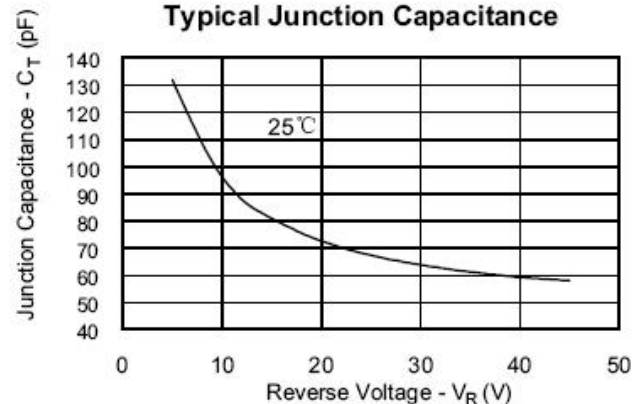
Typical Forward Characteristics



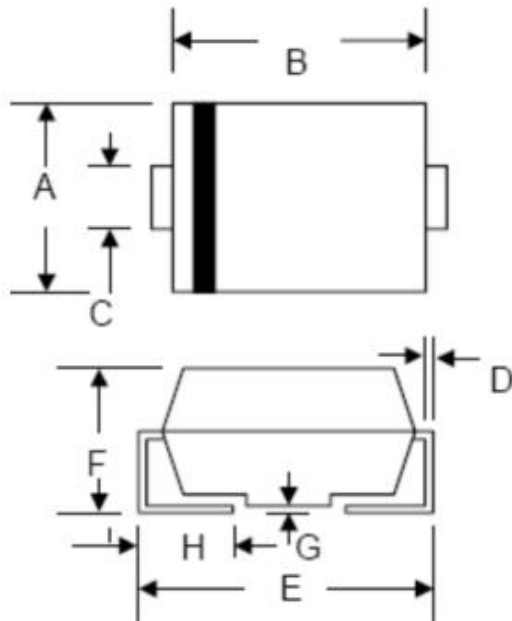
Typical Reverse Characteristics



Typical Junction Capacitance



**Mechanical Dimensions SMC**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.25	0.305	0.325
F	2.00	2.95	0.079	0.116
G	0.051	0.203	0.002	0.008
H	0.76	1.60	0.030	0.063


**Ordering Information**

Device	Package	Shipping
30BQ040	SMC (Pb-Free)	3000pcs / reel

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

**Marking Diagram**

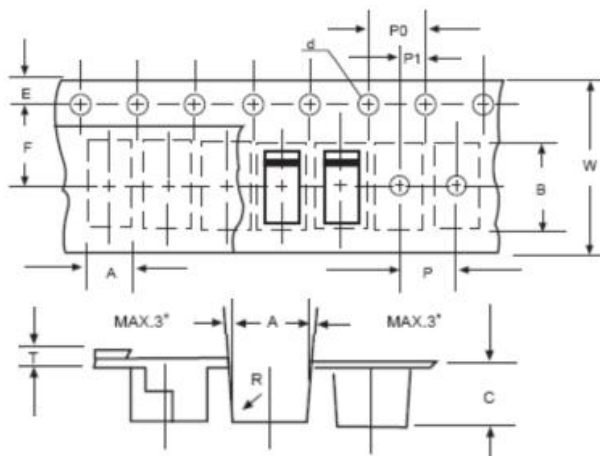
Where XXXXX is YYWWL



SC3F = Part Name  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Eooxv resin UL:94V-0

**Carrier Tape Specification SMC**



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20

**Technical Data**  
**Data Sheet N0674, Rev. A**



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