

## 50HQ035/50HQ040/50HQ045 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
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	35(50HQ035) 40(50HQ040) 45(50HQ045)	V
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>c</sub> =101°C, rectangular wave form	60	A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	10 ms, Half Sine pulse, T <sub>C</sub> = 25 °C	1150	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 60A, Pulse, T <sub>J</sub> = 25 °C @ 120A, Pulse, T <sub>J</sub> = 25 °C	- -	0.60 0.78	V
	V <sub>F2</sub>	@ 60A, Pulse, T <sub>J</sub> = 125 °C @ 120A, Pulse, T <sub>J</sub> = 125 °C	- -	0.53 0.69	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	-	5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	-	200	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	-	2600	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	°C	
Storage Temperature	$T_{stg}$	-	-55 to +150	°C	
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.83	°C/W	
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.25	°C/W	
Mounting Torque	$T_M$	Non-lubricated threads	Min.	23	Kg-cm
			Max.	46	
Approximate Weight	wt	-	15	g	

**Ratings and Characteristics Curves**

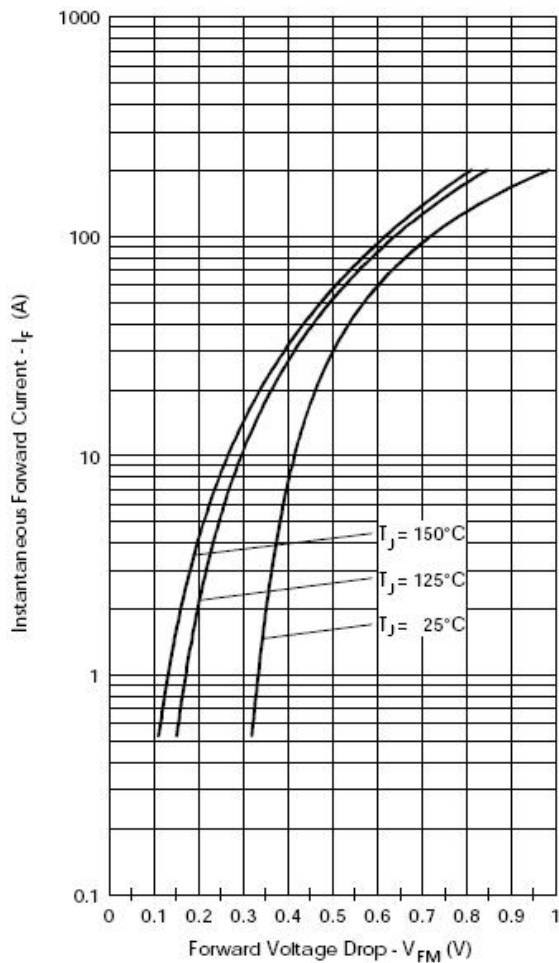


Fig. 1 - Maximum Forward Voltage Drop Characteristics

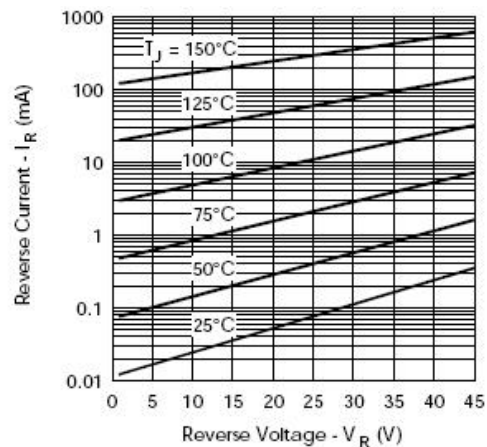


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

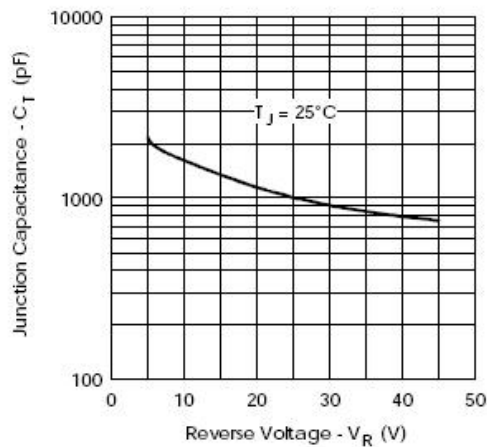
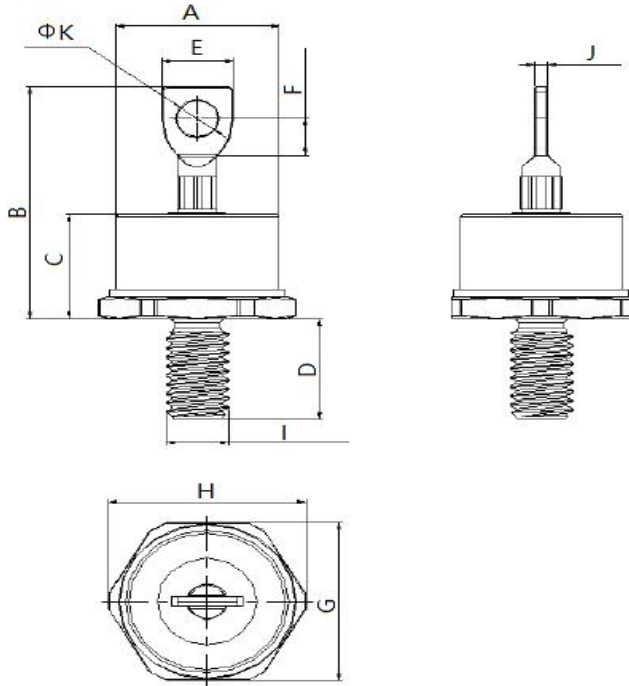


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

**Mechanical Dimensions DO-5**



SYMBOL	Millimeters	
	Min.	Max.
ΦA	15.0	
B	-	25.4
C	9.4	10.2
D	11.0	
E	6.1	6.7
F	3.0	-
G	17.3	
H	19.0	
I	M6	
J	0.9	1.5
ΦK	-	-

**Ordering Information:**

Device	Package	Shipping
50HQ035(040)(045)	DO-5(Pb-Free)	100pcs / box

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

50HQ035 = Part name  
YY = Year  
WW = Week  
L = Lot Number

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

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