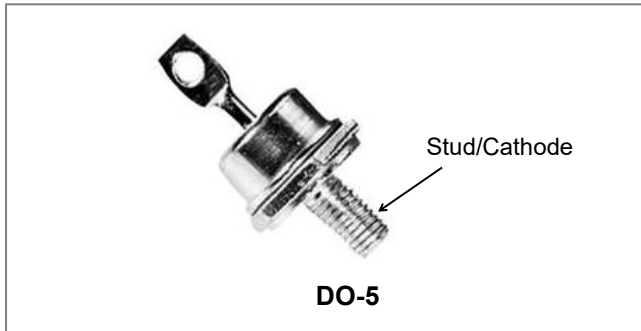


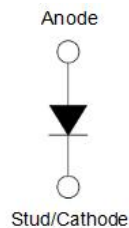
## 50HQ035/50HQ040/50HQ045 SCHOTTKY RECTIFIER



### Features

- 150 °C T<sub>J</sub> operation
- Low forward voltage drop
- Hermetic packaging
- High frequency operation
- Stud cathode
- Guard ring for enhanced ruggedness and long term reliability
- Terminals: Nickel plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Maximum Ratings(At 25°C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	35(50HQ035)	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		40(50HQ040)	
DC Blocking Voltage	V <sub>R</sub>		45(50HQ045)	
Average Rectified Forward Current	I <sub>F(AV)</sub>	T <sub>c</sub> =120°C, In DC	60	A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	10 ms, Half Sine pulse	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	0.58 0.74	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	0.55 0.68	0.58 0.70	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.15	5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	33	200	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	2170	2600	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

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

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### Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units	
Junction Temperature	$T_J$	-	-55 to +150	$^{\circ}\text{C}$	
Storage Temperature	$T_{\text{stg}}$	-	-55 to +150	$^{\circ}\text{C}$	
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	0.83	$^{\circ}\text{C/W}$	
Typical Thermal Resistance, case to Heat Sink	$R_{\theta\text{cs}}$	Mounting surface, smooth and greased	0.25	$^{\circ}\text{C/W}$	
Mounting Torque	$T_M$	Non-lubricated threads	Min.	23	Kg-cm
			Max.	46	
Approximate Weight	wt	-	15	g	

### Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

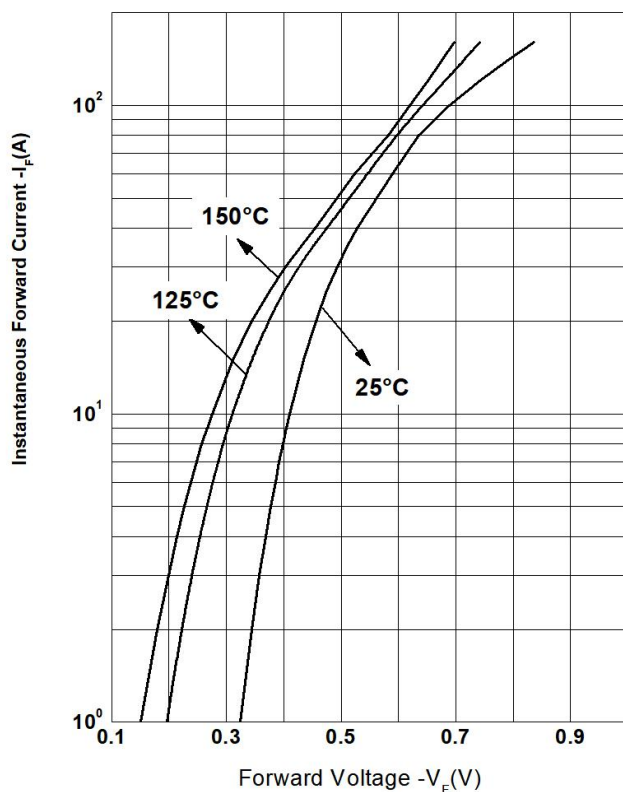


Figure 2 Typical Reverse Characteristics

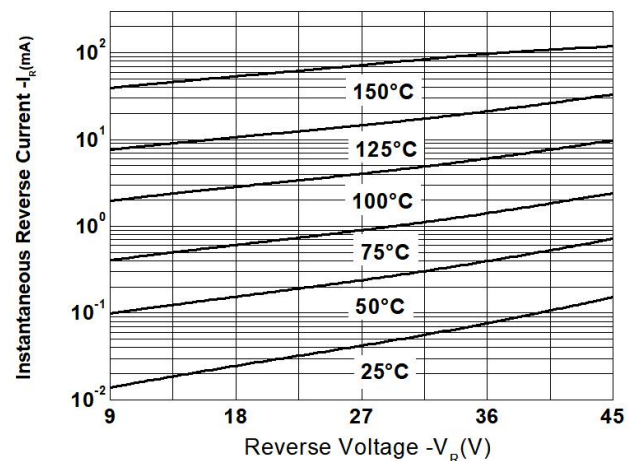
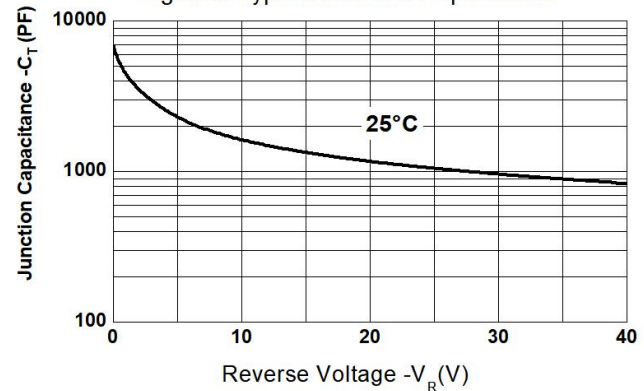
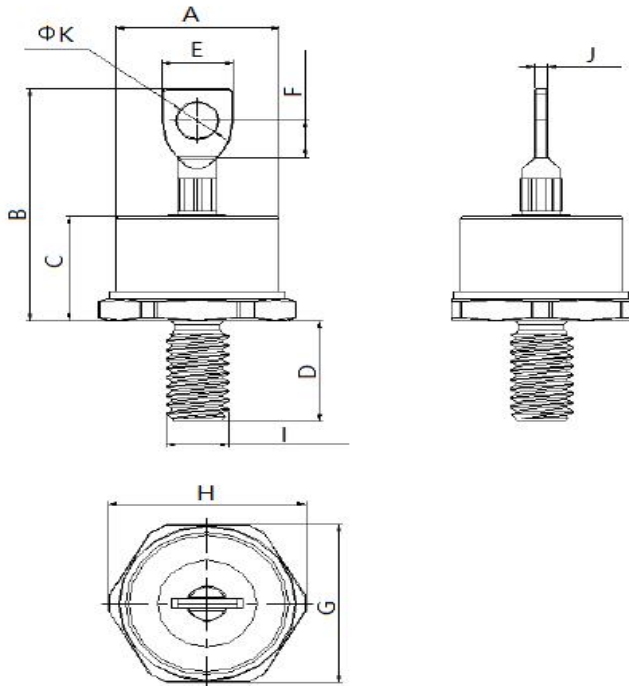


Figure 3 Typical Junction Capacitance



**Mechanical Dimensions DO-5**



SYMBOL	Millimeters	
	Min.	Max.
$\Phi A$	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
$\Phi K$	-	-

**Ordering Information:**

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

**Marking Diagram**



Stud/Cathode

Where XXXXX is YYWWL

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

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