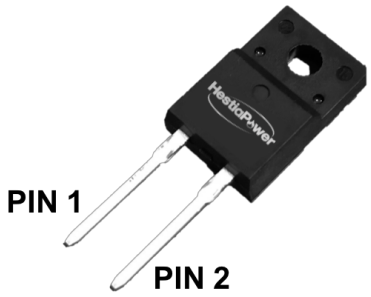
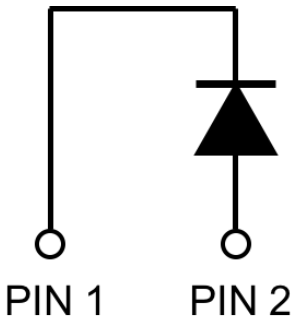
H2S060X010

SiC Schottky Diode

Package TO-220-FP-2L



Inner Circuit



Product Summary

V_R	650 V	
I_F	18A (T_c= 25℃)	10A (T_c= 118℃)
Q_C	19 nC	

Halogen free

RoHS COMPLIANT

Features

- Low Conduction and Switching Loss
- Positive Temperature Coefficient on V_F
- Temperature Independent Switching Behavior
- Fast Reverse Recovery
- High Surge Current Capability
- Fully Isolated Case

Benefits

- Higher System Efficiency
- Parallel Device Convenience
- High Temperature Application
- High Frequency Operation
- Hard Switching & High Reliability
- Environmental Protection

Applications

- SMPS
- PFC
- Solar/ Wind Renewable Energy
- Power Inverters
- Motor Drives
- UPS

Maximum Ratings

Parameter	Symbol	Test Conditions	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	T_J = 25℃	650	V
Peak Reverse Surge Voltage	V_{RSM}	T_J = 25℃	650	V
DC Blocking Voltage	V_R	T_J = 25℃	650	V
Continuous Forward Current	I_F	T_C= 25℃	18	A
		T_C= 118℃	10	A
		T_C= 135℃	7.5	A

Maximum Ratings

Parameter	Symbol	Test Conditions	Value	Unit
Non-Repetitive Peak Forward Surge Current	I_{FSM}	T_C = 25℃, T_P = 10 ms Half Sine Wave	73	A
		T_C = 125℃, T_P = 10 ms Half Sine Wave	65	A
		T_C = 25℃, T_P = 10 µs Pulse	472	A
Repetitive Peak Forward Surge Current	I_{FRM}	T_C = 25℃, T_P = 10 ms Half Sine Wave, D = 0.1	58	A
		T_C = 125℃, T_P = 10 ms Half Sine Wave, D = 0.1	52	A
Power Dissipation	P_D	T_C = 25℃	47.6	W
		T_C = 125℃	15.8	W
Operating Junction and Storage Temperature	T_J		175	℃
	T_{stg}		-55 to 175	℃
Thermal Resistance Junction to Case	$R_{\Theta JC}$		3.15	℃/W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Typ.	Max.	Unit
DC Blocking Voltage	V_{DC}	I_R = 100 µA, T_J = 25℃	> 650		V
Forward Voltage	V_F	I_F = 10A, T_J = 25℃	1.5	1.8	V
		I_F = 10A, T_J = 175℃	1.9	2.2	V
Reverse Current	I_R	V_R = 600V, T_J = 25℃	< 1	50	µA
		V_R = 600V, T_J = 175℃	15	160	µA
Total Capacitive Charge	Q_C	I_F = 10A, dI/dt=300A/µs, V_R=400V, T_J=25℃	19		nC
Total Capacitance	C	V_R=1V, T_J=25℃, f =1 MHz	398		pF
		V_R=200V, T_J=25℃, f =1 MHz	53		
		V_R=400V, T_J=25℃, f =1 MHz	52		

Device Performances

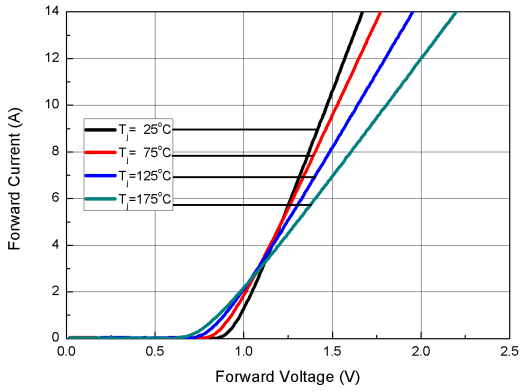


Fig. 1 Forward Characteristics

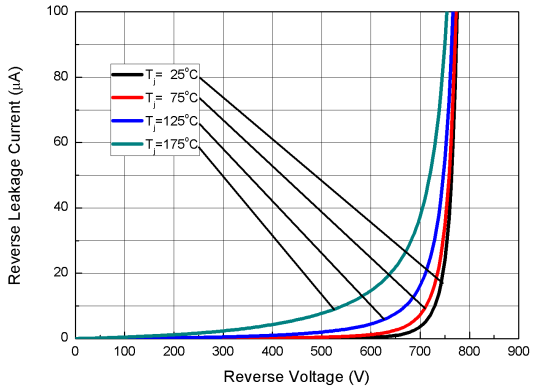


Fig. 2 Reverse Characteristics

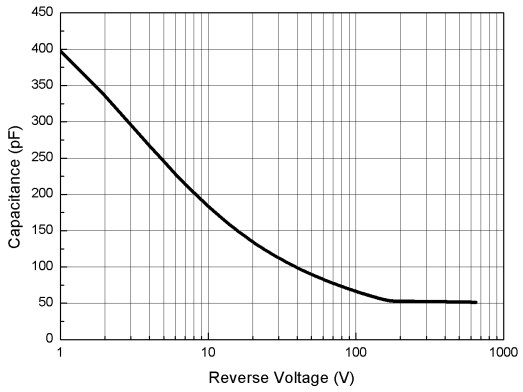


Fig. 3 Capacitance vs. Reverse Voltage

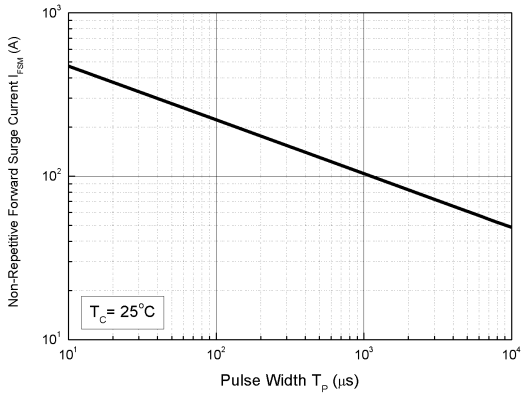


Fig. 4 Non-Repetitive Peak Forward Surge Current (Pulse Mode)

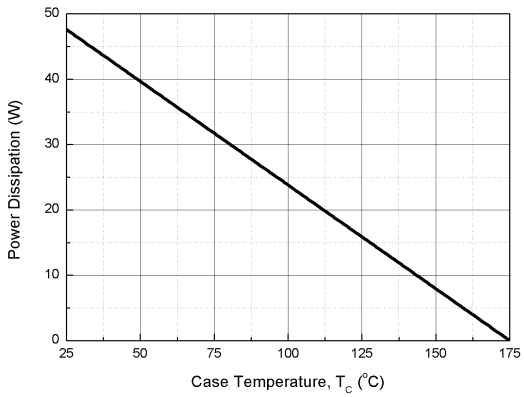


Fig. 5 Power Derating

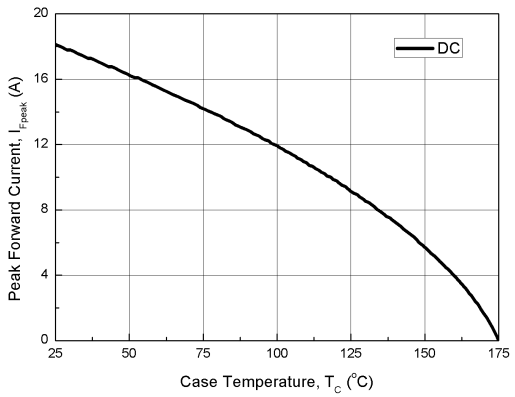
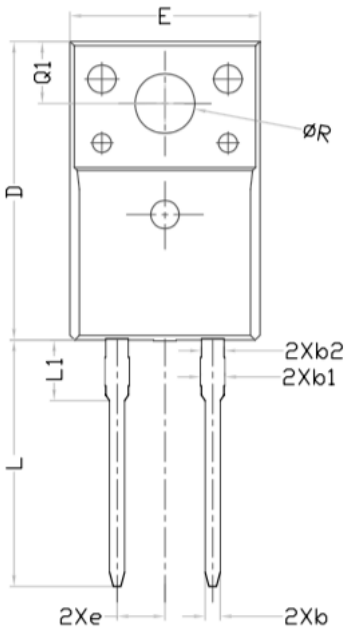
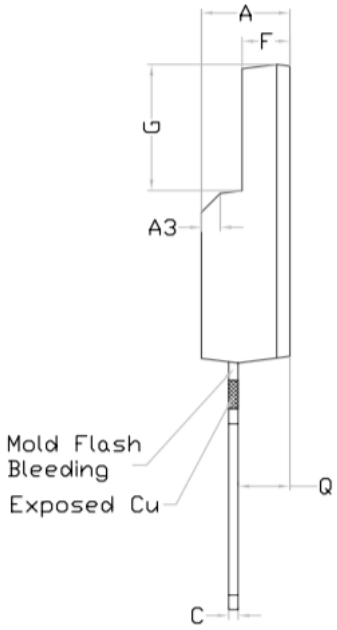


Fig. 6 Current Derating

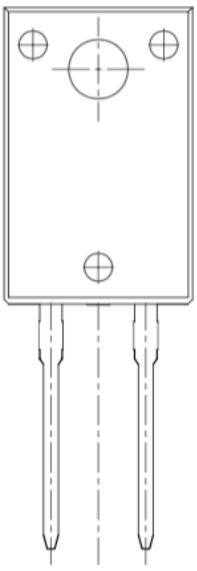
Package Dimensions TO-220-FP-2L





SYMBOL	DIMENSIONS		
	Min.	Nom.	Max.
A	4.60	4.70	4.80
b	0.70	0.80	0.91
b1	1.20	1.30	1.47
b2	1.10	1.20	1.30
C	0.45	0.50	0.63
D	15.80	15.87	15.97
e		2.54	
E	10.00	10.10	10.30
F	2.44	2.54	2.64
G	6.50	6.70	6.90
L	12.90	13.10	13.30
L1	3.13	3.23	3.33
Q	2.65	2.75	2.85
Q1	3.20	3.30	3.40
ΦR	3.08	3.18	3.28

Note:
1. All Dimension Are In mm.
2. Package Body Sizes Exclude Mold Flash And Burrs Mold Flash Should Be Less Than 6 Mil.



BOTTOM VIEW