H3D010170D

Product Summary

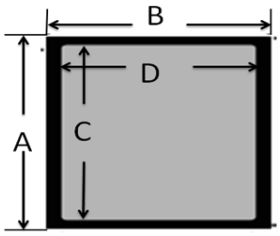
V_{RRM}	=	1700	V
$I_{F(AVG)}$	=	10	A
Q_C	=	106	nC

Part Number	Die Size
H3D010170D	3.00mm x 3.00mm

Mechanical Parameters

Parameter	Typ.	Unit
Die Size	3.00×3.00	mm^2
Anode Pad Opening	2.07×2.07	mm^2
Thickness	350±50	μm
Wafer Size	100	mm
Anode Metallization (Al)	4	μm
Cathode Metallization (Ni/Ag)	1.6	μm
Frontside Passivation	Polyimide	

Chip Dimensions



Symbol	Dimension
A	3.00mm
B	3.00mm
C	2.07mm
D	2.07mm

Maximum Ratings

Symbol	Parameter	Value	Unit	Test Conditions	Note
V_{RRM}	Repetitive Peak Reverse Voltage	1700	V		
V_{DC}	DC Blocking Voltage	1700	V		
$I_{F(AVG)}$	Average Forward Current	10	A	T_J=175˚C	
I_{FSM}	Non-Repetitive Forward Surge Current	110	A	T_C = 25˚C, t_p = 8.3ms, Half Sine Wave	1
T_J	Operating Junction Temperature	-55 to 175	˚C		

1. Assumes Thermal Resistance of 0.5˚C/W or less

Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V_F	Forward Voltage	1.5 2.1	1.8 2.5	V	I_F = 10A, T_J = 25˚C I_F = 10A, T_J = 175˚C	Fig.1
I_R	Reverse Current	5 25	50 200	μA	V_R = 1700V, T_J = 25˚C V_R = 1700V, T_J = 175˚C	Fig.2
C	Total Capacitance	990 45 42	/	pF	V_R = 0V, T_J = 25˚C, f = 1MHz V_R = 800V, T_J = 25˚C, f = 1MHz V_R = 1700V, T_J = 25˚C, f = 1MHz	Fig.3
Q_C	Total Capacitive Charge	106	/	nC	V_R = 1700V, I_F = 10A di/dt = 200A/μs, T_J = 25˚C	Fig.4

Typical Performance

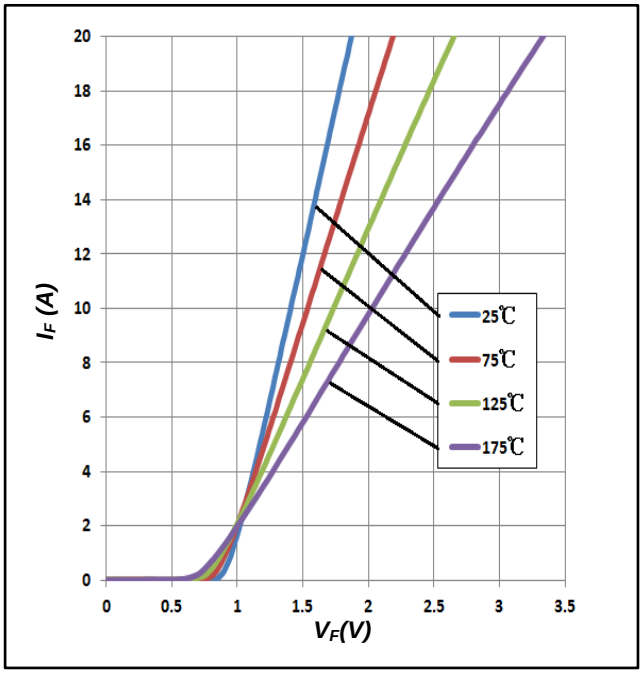


Figure 1. Forward Characteristics

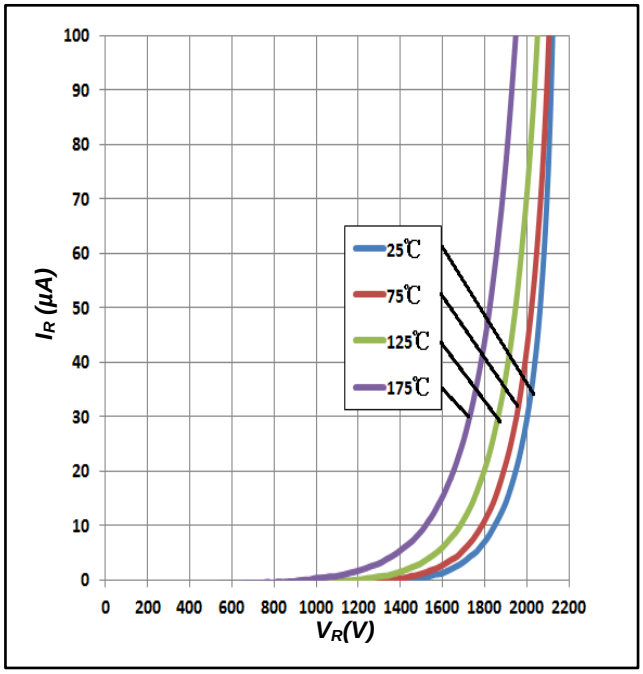


Figure 2. Reverse Characteristics

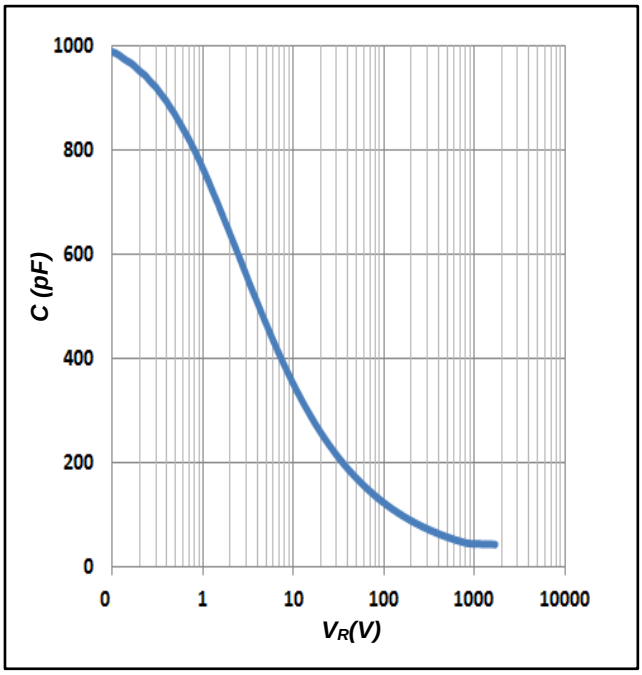


Figure 3. Total Capacitance vs. Reverse Voltage

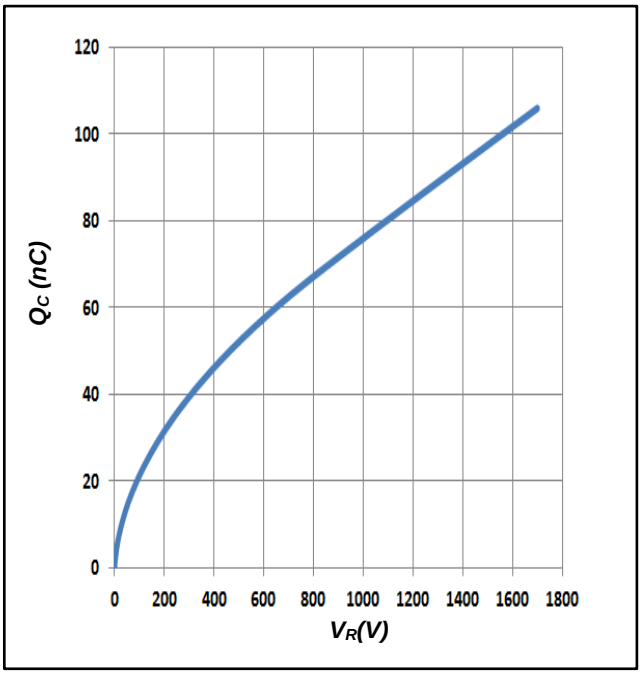


Figure 4. Total Capacitance Charge vs. Reverse Voltage