6A 650V SiC Schottky Diode

■ Applications

- Switch Mode Power Supply
- Power Factor Correction
- Solar Inverter
- Uninterruptible Power Supply

■ Product Summary

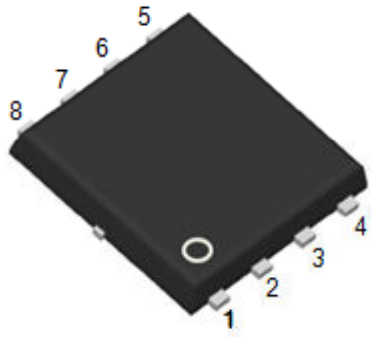
V_{RRM}	650	V
I_F@Tc=150℃	6	A
$V_{F,TYP}$@Tc=25℃	1.35	V
$V_{F,TYP}$@Tc=175℃	1.7	V
Qc	18	nC

■ Features

- No Reverse Recovery/ No Forward Recovery
- Temperature Independent Switching Behavior
- Positive Temperature Coefficient on V_F
- Fast Reverse Recovery
- High Surge Current Capability
- 100% UIS and RG Tested

■ Benefits

- Higher System Efficiency
- System Cost and Size Savings
- High Frequency Operation
- Higher System Reliability
- Reduced EMI



Cathde： 5-8

Anode ： 1-3

N.C.： 4

DFN5x6

Marking	Package	Packaging	Min. package quantity
MDG3S06C065	DFN5x6	Tape & Reel	5000

■ Absolute Maximum Ratings（Tc=25℃ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	650	V
Surge Peak Reverse Voltage	V_{RSM}	650	V
DC Peak Blocking Voltage	V_R	650	V
Continuous Forward Current Tc=150℃	I_F	6	A
Repetitive Peak Forward Surge Current	I_{FSM}	70	A
Power Dissipation	P_D	75	W
Junction Temperature	T_j	175	℃
Storage Temperature	T_{stg}	-55-175	℃

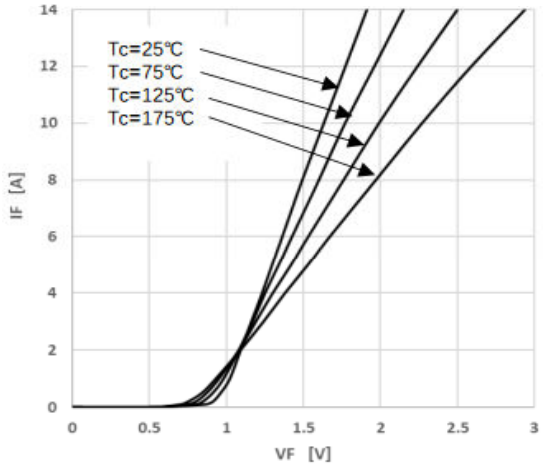
■ Thermal Characteristics

Parameter	Symbol	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	2	℃/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	60	℃/W

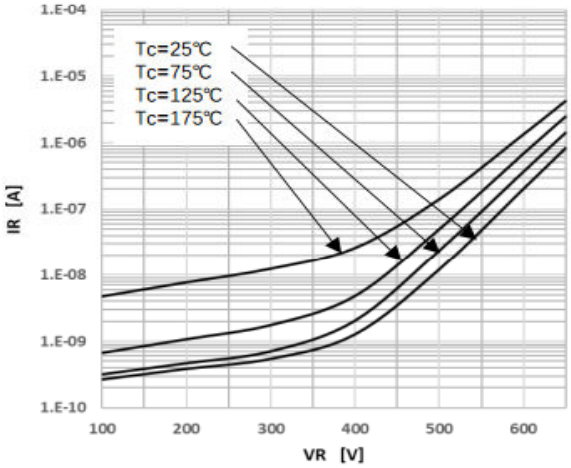
■ Electrical Characteristics（Tc=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Parameters						
DC Blocking Voltage	V_{DC}	I_R=100uA	650	-	-	V
Forward Voltage	V_F	I_F=6A	-	1.35	1.5	V
		I_F=6A，T_J=175℃	-	1.7	2.1	V
Reverse Current	I_R	V_R=650V	-	1	10	uA
		V_R=650V，T_J=175℃	-	10	50	uA
AC Parameters						
Total Capacitive Charge	Q_C	I_F= 6A, dI/dt=500A/μs, V_R=400V,	-	18	-	nC
Total Capacitive	C	V_R=1V, f=1MHz	-	260	-	pF
		V_R=200V, f=1MHz	-	35	-	
		V_R=400V, f=1MHz	-	33	-	

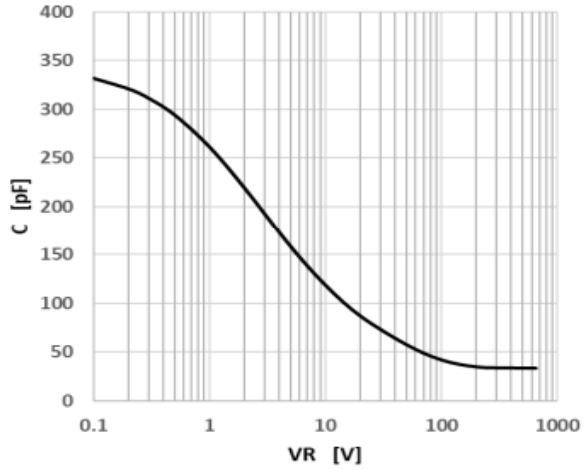
■ Characteristics Curves



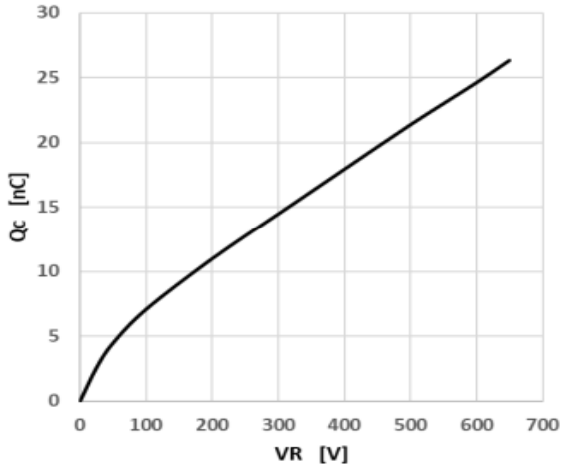
Forward Characteristics



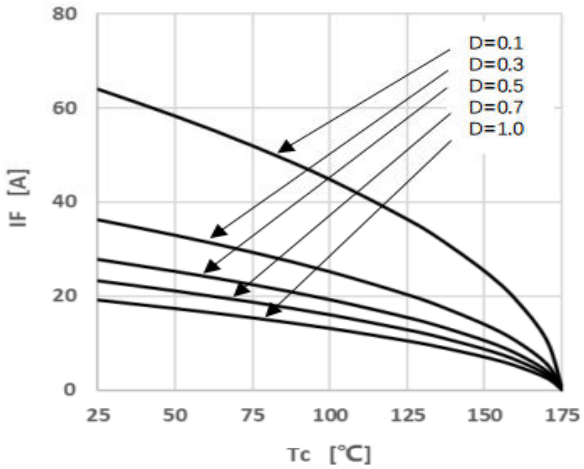
Reverse Characteristics



Capacitance



Recovery Charge vs. Reverse Voltage



Current Derating

■ DFN5x6 Package Dimensions

Unit：mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	0.90		1.10	k	1.15		1.35
A3	0.15		0.30	b	0.20		0.40
D	4.90		5.10	e	1.15		1.35
D1	3.90		4.10	L	0.50		0.65
D2	4.75		5.05	L1	0.43		0.55
E	5.85		6.15	H	0.55		0.68
E1	3.35		3.55	θ	8°		12°
E2	5.55		5.85