6A 650V SiC Schottky Diode

Applications

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

Product Summary

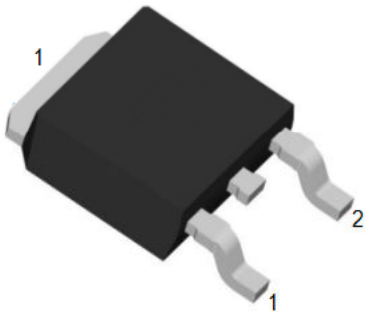
V_{RRM}	650	V
I_F@Tc=150℃	6	A
$V_{F,TYP}$@Tc=25℃	1.5	V
$V_{F,TYP}$@Tc=175℃	1.9	V
Qc	15	nC

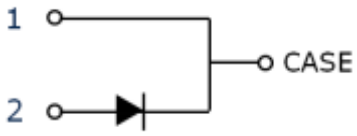
Features

- 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 ： 1

Anode ： 2

TO-252

Marking	Package	Packaging	Min. package quantity
MK3S06C065	TO-252	Tape & Reel	3000

■ 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
Non-Repetitive Peak Forward Surge Current	I_{FSM}	55	A
Power Dissipation	P_D	75	W
Junction Temperature	T_j	175	℃
Storage Temperature	T_{stg}	-55-175	℃

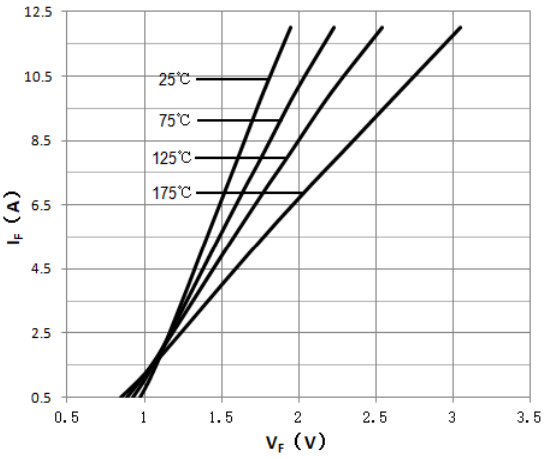
■ Thermal Characteristics

Parameter	Symbol	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	3	℃/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	60	℃/W

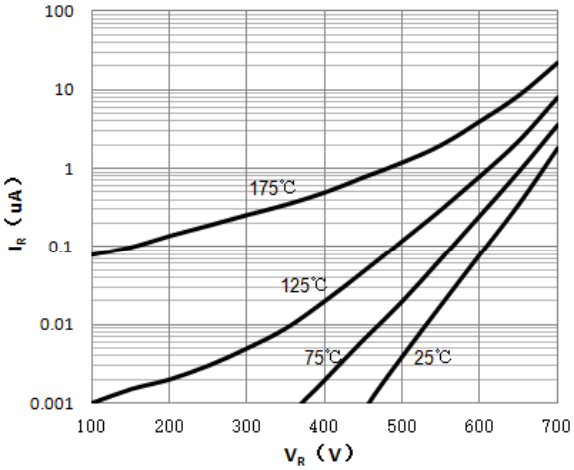
■ Electrical Characteristics（Tc=25℃ unless otherwise noted)

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	-	1.5	1.7	V
		I_F=6A，T_J=175℃	-	1.9	2.2	V
Reverse Current	I_R	V_R=650V	-	0.3	10	uA
		V_R=650V，T_J=175℃	-	15	100	uA
AC Parameters						
Total Capacitive Charge	Q_C	I_F= 6A, dI/dt=200A/μs, V_R=400V, T_J=25℃	-	15	-	nC
Total Capacitive	C	V_R=1V, f=1MHz	-	195	-	pF
		V_R=300V, f=1MHz	-	25	-	
		V_R=600V, f=1MHz	-	24	-	

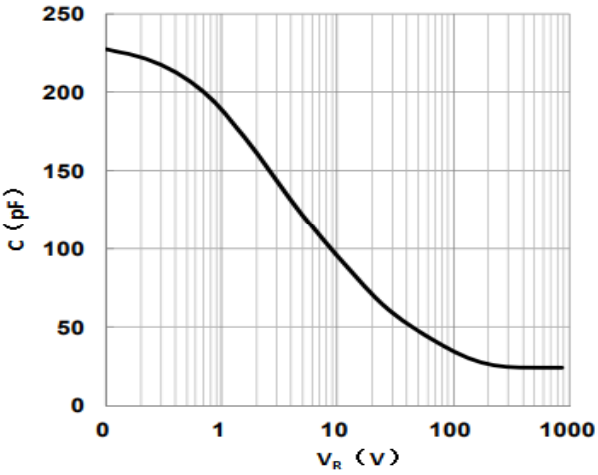
■ Characteristics Curves



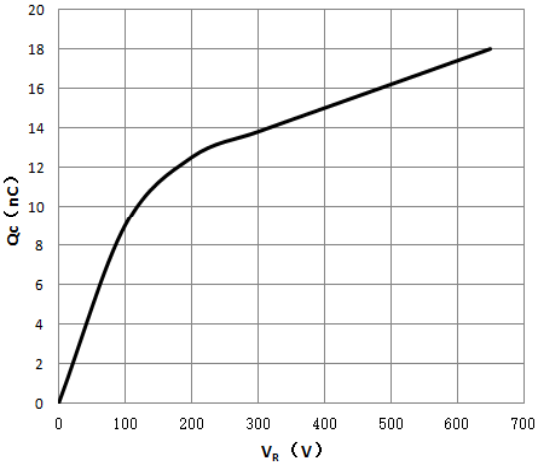
Forward Characteristics



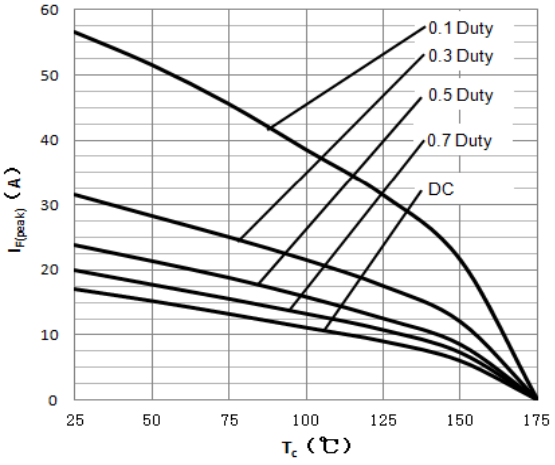
Reverse Characteristics



Capacitance



Recovery Charge vs. Reverse Voltage



Current Derating

■ TO-252 Package Dimensions

Unit：mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	2.10		2.50	E	5.80		6.30
B	0.80		1.25	e1	2.25	2.30	2.35
b	0.50		0.85	e2	4.45		4.75
b1	0.50		0.90	L1	9.50		10.20
b2	0.45		0.60	L2	0.90		1.45
C	0.45		0.60	L3	0.60		1.10
D	6.35		6.75	K	-0.1		0.10
D1	5.10		5.50