

## » Applications

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

## » Product Summary

$V_{RRM}$	650	V
$I_F@T_C=150^\circ\text{C}$	6	A
$V_{F,TYP}@T_C=25^\circ\text{C}$	1.5	V
$V_{F,TYP}@T_C=175^\circ\text{C}$	1.9	V
$Q_C$	15	nC

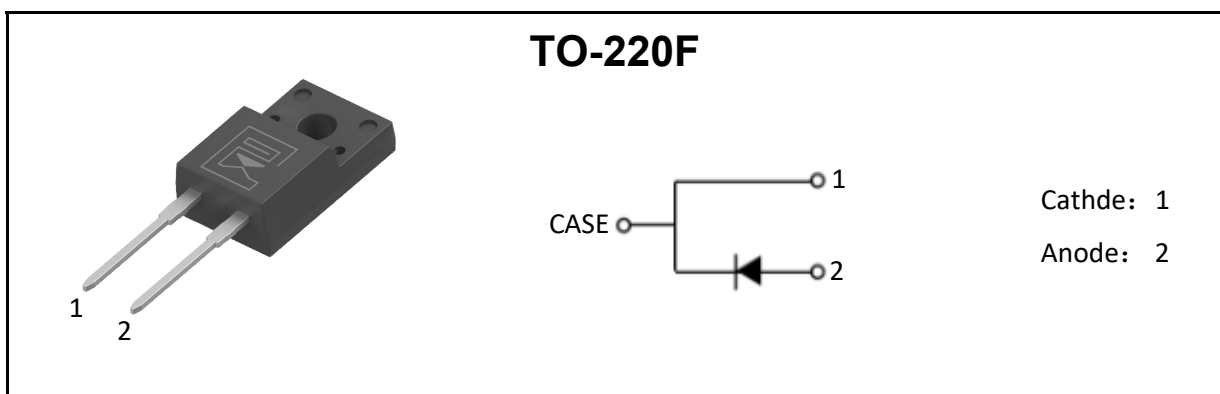
## » Features

- 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



## » Package Marking and Ordering Information

Ordering code	Marking	Package	Packaging	Min. package quantity
MF3S06C065	MF3S06C065	TO-220F	Tube	1000

**》》 Absolute Maximum Ratings (Tc=25°C 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°C	$I_F$	6	A
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	55	A
Power Dissipation	$P_D$	37.5	W
Junction Temperature	$T_j$	175	°C
Storage Temperature	$T_{stg}$	-55-175	°C

**》》 Thermal Characteristics**

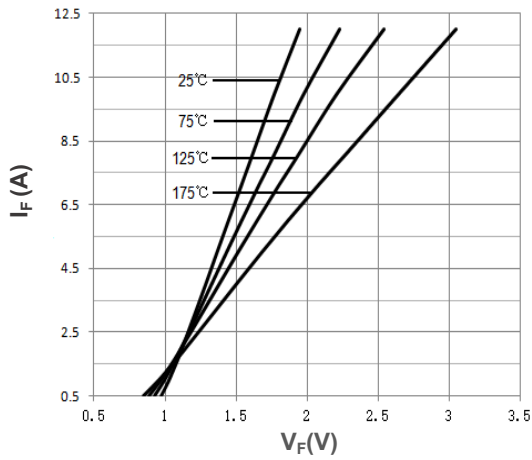
Parameter	Symbol	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	4	°C/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	60	°C/W

**》》 Electrical Characteristics (Tc=25°C unless otherwise noted)**

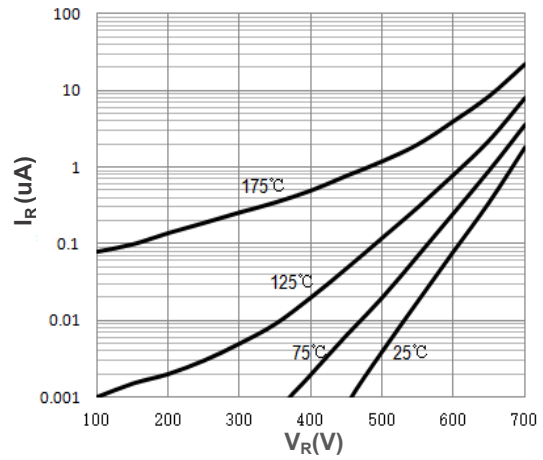
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static Parameters</b>						
DC Blocking Voltage	$V_{DC}$	$I_R=100\mu A$	650	-	-	V
Forward Voltage	$V_F$	$I_F=6A$	-	1.5	1.7	V
		$I_F=6A, T_J=175^\circ C$	-	1.9	2.2	V
Reverse Current	$I_R$	$V_R=650V$	-	0.3	10	$\mu A$
		$V_R=650V, T_J=175^\circ C$	-	15	100	$\mu A$
<b>AC Parameters</b>						
Total Capacitive Charge	$Q_C$	$I_F=6A, dI/dt=200A/\mu s, V_R=400V, T_J=25^\circ C$	-	15	-	nC
Total Capacitive	C	$V_R=1V, f=1MHz$	-	195	-	pF
		$V_R=300V, f=1MHz$	-	25	-	
		$V_R=600V, f=1MHz$	-	24	-	



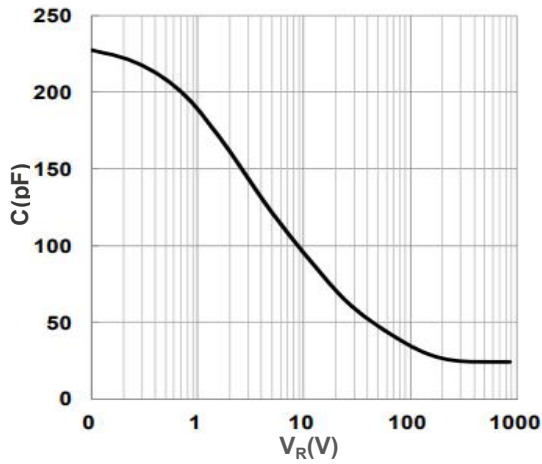
Characteristics Curves



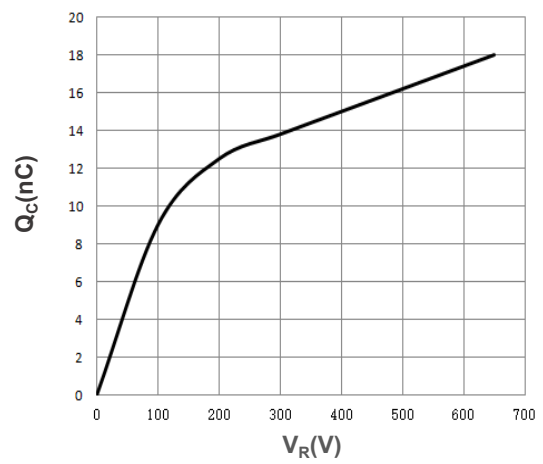
Forward Characteristics



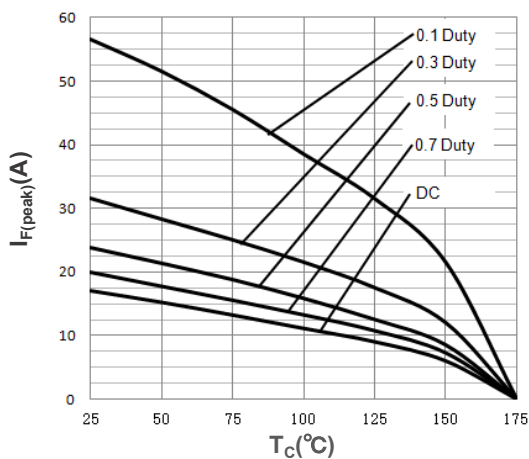
Reverse Characteristics



Capacitance



Recovery Charge vs. Reverse Voltage



Current Derating



TO-220F Package Dimensions

Unit: mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	4.5		4.9	E1		7	
A1	2.3		2.9	e		2.54	
b	0.45		0.9	e1	1		1.5
b1	1.1		1.7	L	12.5		14.3
b2	1.2		1.4	L1	9.45		10.05
c	0.35		0.9	L2	15		16
D	14.5		17	L3	3.2		4.4
D1	6.1		6.9	ΦP	3		3.3
E	9.6		10.3	Q	2.5		2.9

