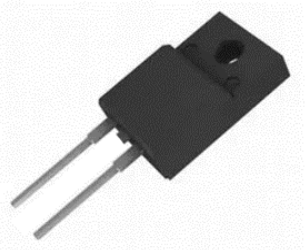
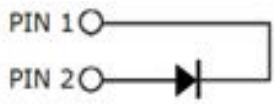
General Description

This product family offers state of the art performance. It is designed for high frequency applications where high efficiency and high reliability are required.



TO-220F-2L



Features

- Electrically isolated package
- ZLow conduction loss due to low V_F
- Extremely low switching loss by tiny Q_C
- Highly rugged due to better surge current
- Industrial standard quality and reliability

Applications

- UPS
- Power Inverter
- High performance SMPS
- Power factor correction

Part Number	Package	Marking
FFSPF1065A	TO-220F-2L	F1065JR

Maximum Ratings (T_C=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions
V_{RRM}	Repetitive Peak Reverse Voltage	650	V	
V_{RSM}	Surge Peak Reverse Voltage	650	V	
V_R	DC Peak Reverse Voltage	650	V	
I_F	Continuous Forward Current	18 12 10	A	T_C=25˚C T_C=110˚C T_C=130˚C
I_{FRM}	Repetitive Peak Forward Surge Current	45 27	A	T_C=25˚C, t_P=10 ms, Half Sine Pulse T_C=110˚C, t_P=10 ms, Half Sine Pulse
I_{FSM}	Non-Repetitive Forward Surge Current	θ 70	A	T_C=25˚C, t_P=10 ms, Half Sine Pulse T_C=110˚C, t_P=10 ms, Half Sine Pulse
P_{tot}	Power Dissipation	27 12	W	T_C=25˚C T =110˚C
∫i²dt	i²t value	31.5 24.3	A²s	T_C=25˚C, t_P=10 ms T_C=110˚C, t_P=10 ms
T_J	Operating Junction Range	-55 to +175	˚C	
T_{stg}	Storage Temperature Range	-55 to +150	˚C	

Electrical Characteristics

Parameter	Symbol	Value			Unit	Test Condition
		min.	typ.	max.		
Forward Voltage	V_F	-	1.3	1.5	V	I_F=10A, T_j=25°C
		-	1.5			T_j=175°C
Reverse Current	I_R	-	-	50	μA	V_R=650V, T_j=25°C
		-	-	200		T_j=175°C
Total Capacitive Charge	Q_C	-	27	-	nC	V_R=400V，T_j=25℃ $Q_C = \int_0^{V_R} C(V)dV$
Total Capacitance	C	-	561	-	pF	T_j=25℃, f=1MHz, V_R=0V
		-	55	-		V_R=200V
		-	43	-		V_R=400V

Thermal Characteristics

Symbol	Parameter	Typ.	Unit
$R_{\theta JC}$	Thermal Resistance from Junction to Case	5.6	°C/W

Characteristics Curve

Fig 1: Forward Characteristics

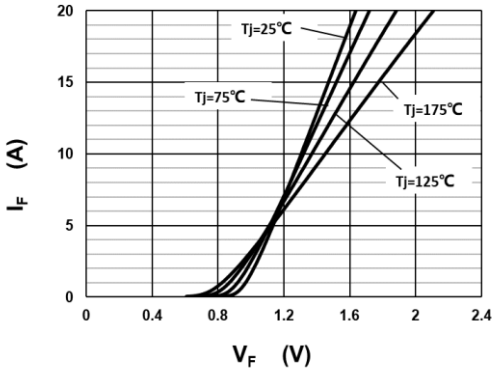


Fig 2: Reverse Characteristics

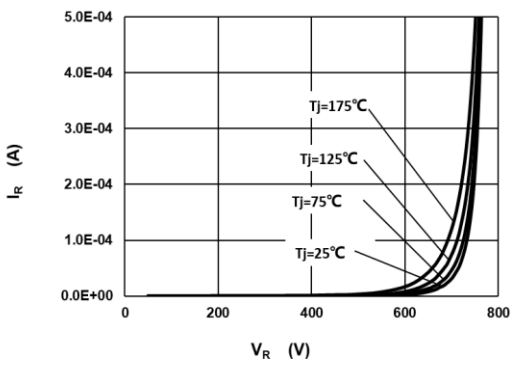


Fig 3: Current Derating

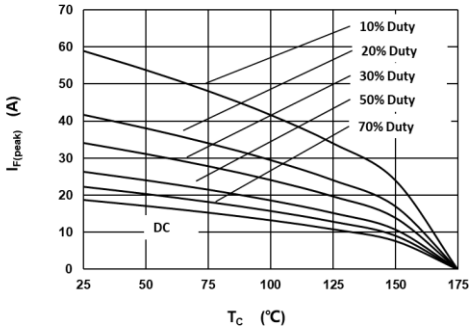


Fig 4: Power Derating

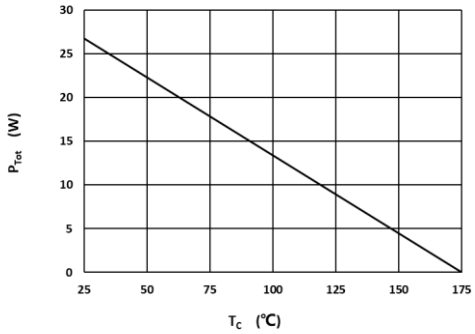


Fig 5: Capacitance vs. Reverse Voltage

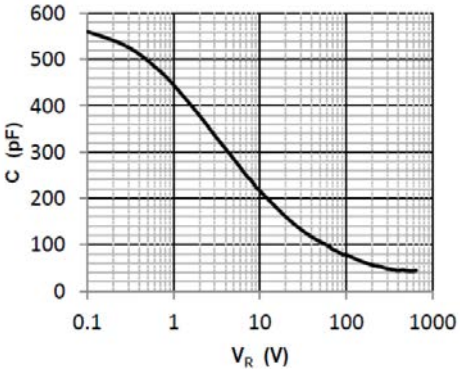


Fig 6: Reverse Charge vs. Reverse Voltage

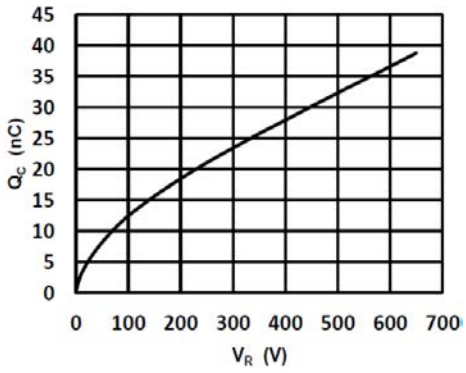


Fig 7: Typical Capacitance Stored Energy

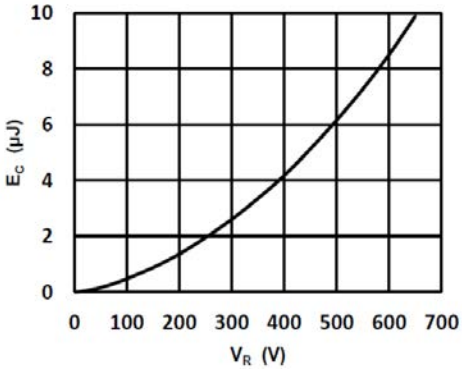
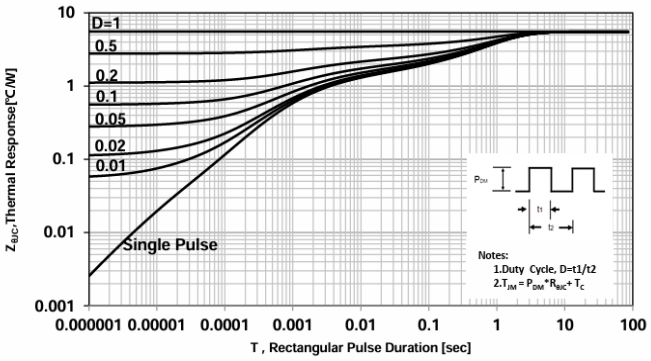
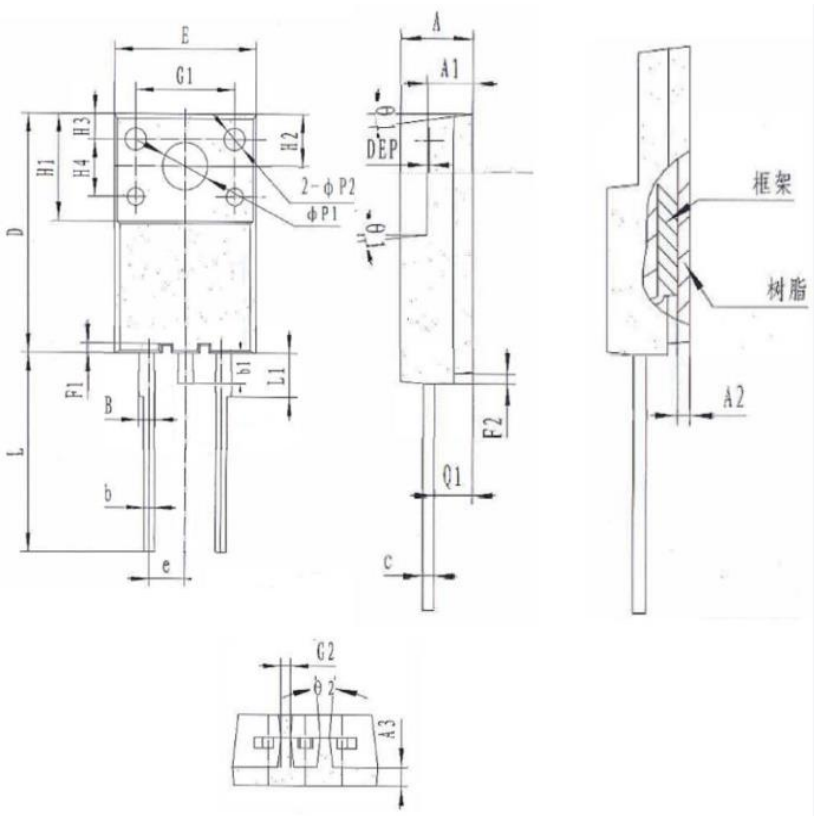


Fig 8: Transient Thermal Impandance



Package Information
TO-220F-2L



项目	规范(mm)	
	MIN	MAX
A	4.30	4.70
A1	2.68	2.88
A2	0.55	0.65
A3	0.86	1.06
b	0.77	0.87
b1	0.60	0.80
B	1.07	1.25
c	0.45	0.55
D	15.70	16.10
E	9.90	10.22
F1	0.40	0.60
F2	0.50	0.70
G1	6.90	7.10
G2	0.60	0.70
H1	6.80	7.20
H2	3.25	3.45
H3	1.50	1.90
H4	3.65	4.05
e	2.49	2.59
L	13.00	13.60
L1	3.20	3.40
Q1	2.20	2.40
θ1	4°	10°
θ2	7°	13°
ϕP1	3.06	3.26
ϕP2	1.40	1.60
DEP	0.05	0.20

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