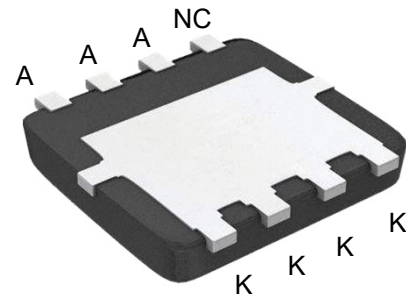


Feature

- Negligible reverse recovery
- Positive Temperature Coefficient
- Temperature-Independent Switching
- Fast switching
- Pb-free / RoHS compliant
- Low switching loss
- Higher frequency
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability



DFN5060-8L
Bottom View

Applications

- Power inverters
- Uninterruptable power supplies
- High performance SMPS
- Power Factor Correction



Circuit Diagram

Absolute maximum rating@25°C

Parameter		Symbol	Value	Units
Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Continuous Forward Current	$T_c=25^\circ\text{C}$	I_F	19	A
	$T_c=135^\circ\text{C}$		9.0	
	$T_c=140^\circ\text{C}$		8.0	
Repetitive Peak Forward Surge Current @ $T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		I_{FRM}	68	A
Non-repetitive Forward Surge Current	$T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	I_{FSM}	87	A
	$T_c=110^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		72	
i^2t Value	$T_c=25^\circ\text{C}, t_p=10\text{ms}$	$\int i^2 dt$	37	A^2s
	$T_c=110^\circ\text{C}, t_p=10\text{ms}$		25	
Power Dissipation	$T_c=25^\circ\text{C}$	P_{tot}	63	W
	$T_c=110^\circ\text{C}$		27	
	$T_c=110^\circ\text{C}$		11	
Operating Junction Range		T_J	-55~+175	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	-55~+175	$^\circ\text{C}$

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DC Blocking Voltage	V_{DC}	-	650	-	-	V
Forward Voltage	V_F	$I_F = 4A$	-	1.18	-	V
		$I_F = 8A, T_J = 25^\circ C$	-	1.39	1.6	
		$I_F = 8A, T_J = 175^\circ C$	-	1.74	-	
Reverse Current	I_R	$V_R = 650V, T_J = 25^\circ C$	-	6.0	60	μA
		$V_R = 650V, T_J = 175^\circ C$	-	12	-	
Total Capacitive Charge	Q_C	$V_R = 400V$	-	23	-	nC
Total Capacitance	C	$V_R = 1V, f = 1MHz$	-	338	-	pF
		$V_R = 200V, f = 1MHz$	-	44	-	
		$V_R = 400V, f = 1MHz$	-	33	-	
Capacitance Stored Energy	E_C	$V_R = 400V$	-	3.7	-	μJ

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance (Junction to case)	$R_{\theta JC}$	-	2.37	-	$^\circ C/W$

Typical Characteristics

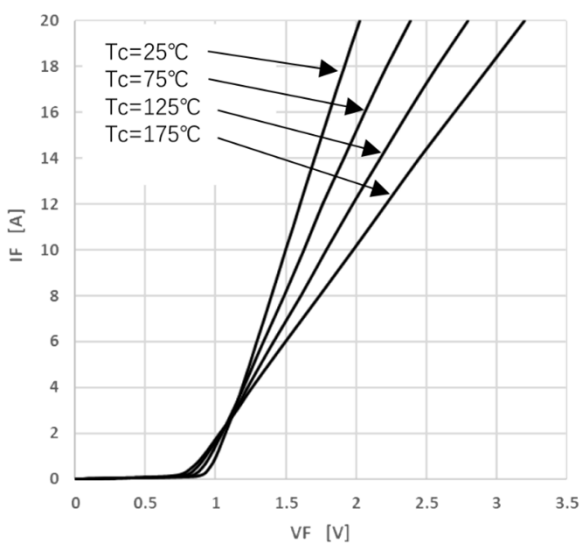


Fig.1 Forward Characteristics

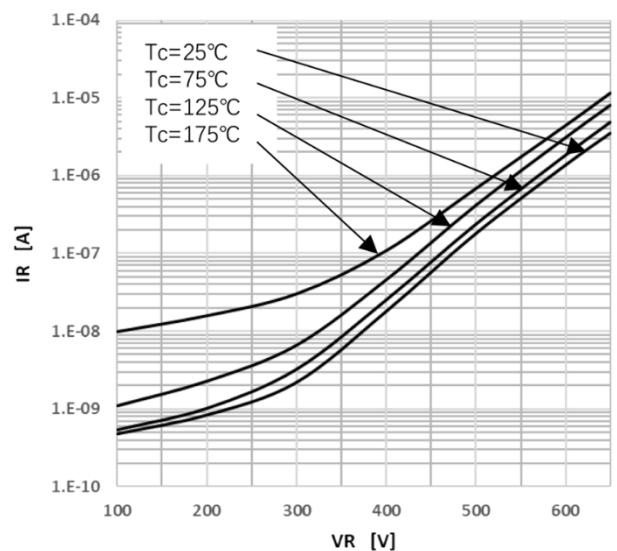


Fig.2 Reverse Characteristics

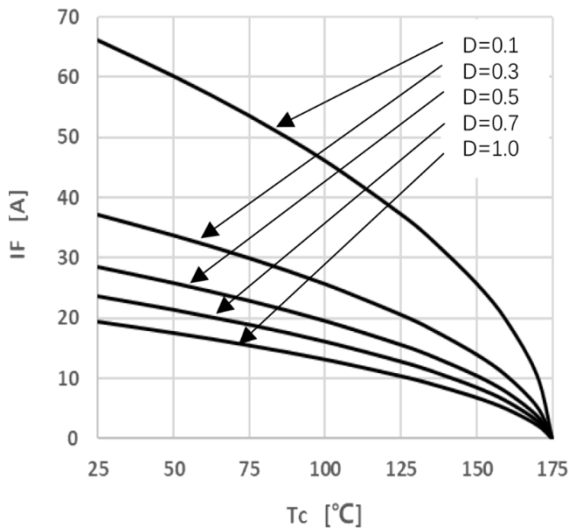


Fig.3 Peak Forward Current Derating

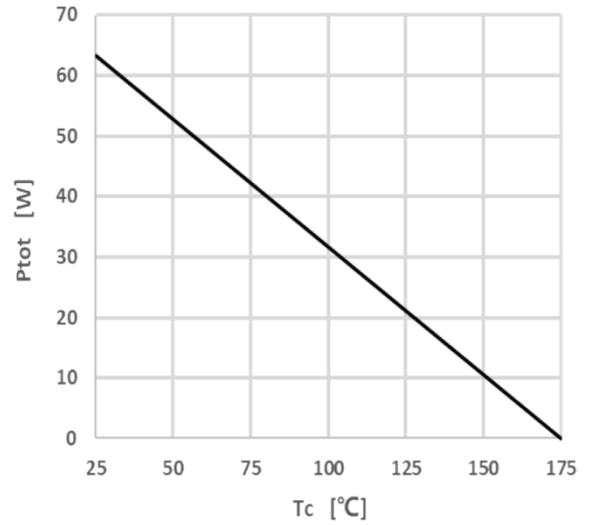


Fig.4 Power Derating

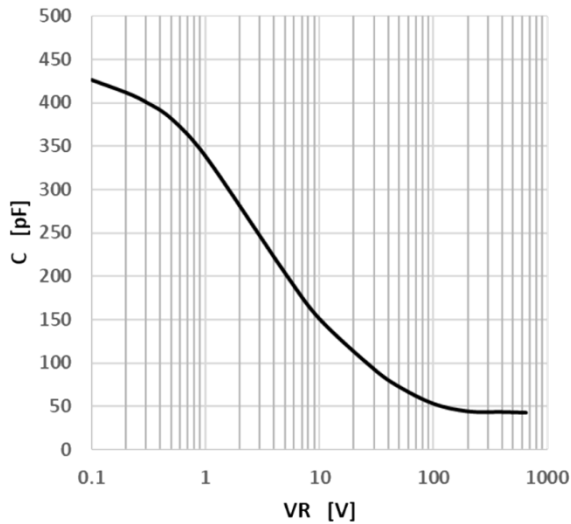


Fig.5 Capacitance vs. Reverse Voltage

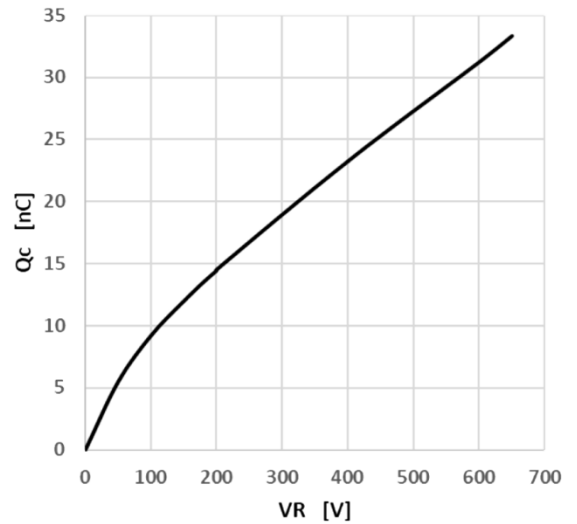


Fig.6 Capacitive Charge vs. Reverse Voltage

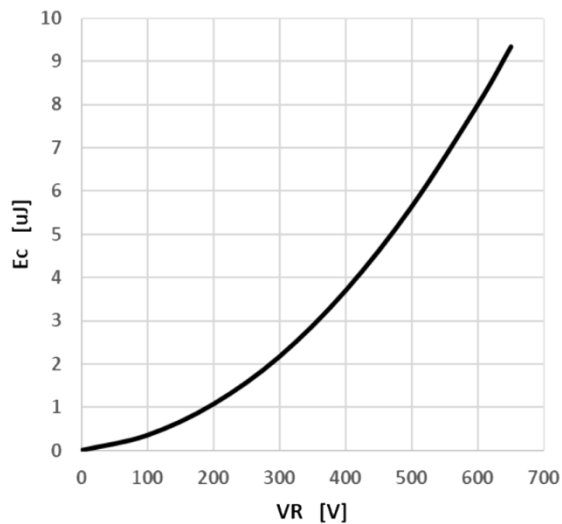


Fig.7 Capacitance Stored Energy

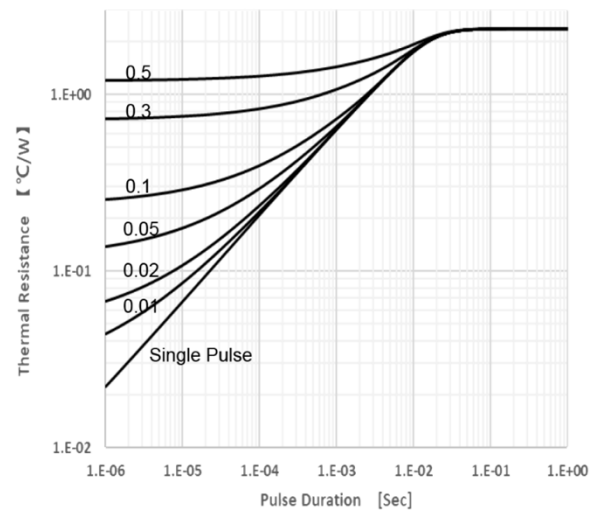
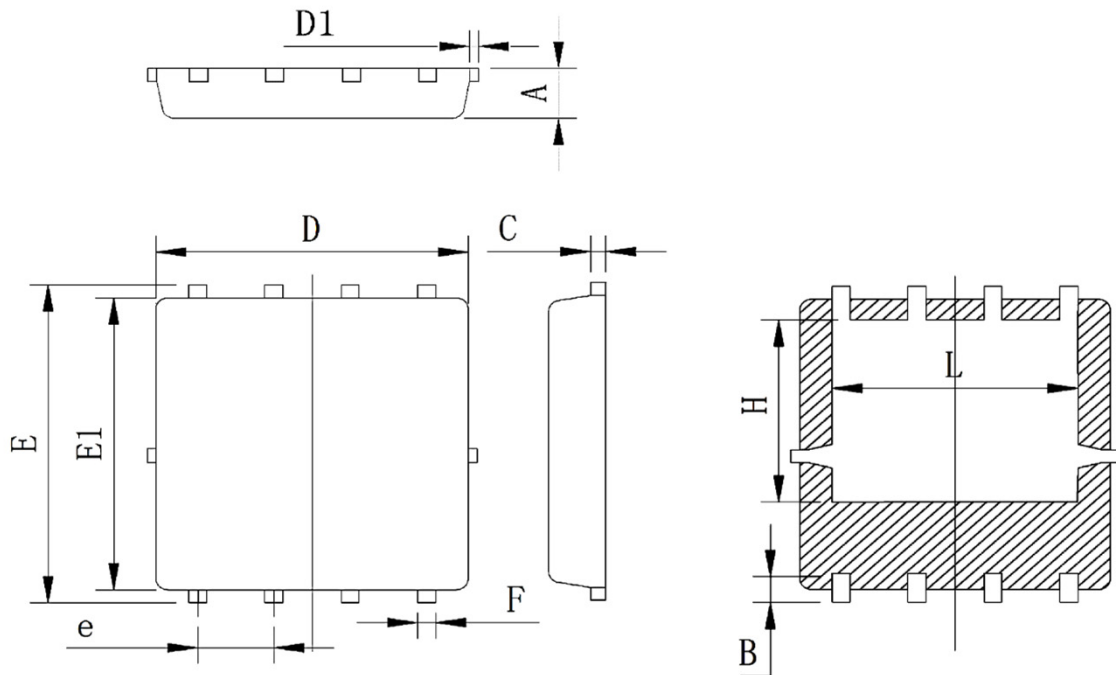



Fig.8 Transient Thermal Impedance

Product Dimension (DFN5060-8L)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.00	0.035	0.039
B	0.48	0.68	0.019	0.027
C	0.20	0.30	0.008	0.012
D	5.00	5.40	0.197	0.213
D1	-	0.15	-	0.006
E	5.90	6.20	0.232	0.244
E1	5.40	5.70	0.213	0.224
e	1.22	1.32	0.048	0.052
F	0.25	0.35	0.010	0.014
H	3.27	3.67	0.129	0.144
L	3.80	4.20	0.150	0.165


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