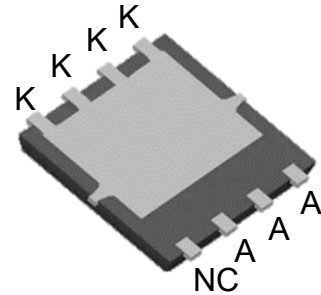


Feature

- 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	26	A
	$T_c=160^{\circ}\text{C}$		6	
Non-repetitive Forward Surge Current	$T_c=25^{\circ}\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	I_{FSM}	60	A
i^2t Value	$T_c=25^{\circ}\text{C}, t_p=10\text{ms}$	$\int i^2 dt$	18	A^2s
Power Dissipation	$T_c=25^{\circ}\text{C}$	P_{tot}	102	W
	$T_c=110^{\circ}\text{C}$		44	
Operating Junction Range		T_J	-55~+175	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55~+175	$^{\circ}\text{C}$

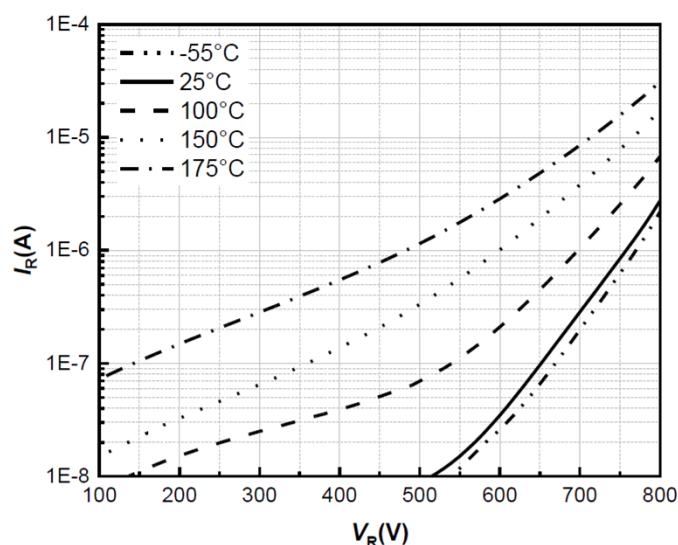
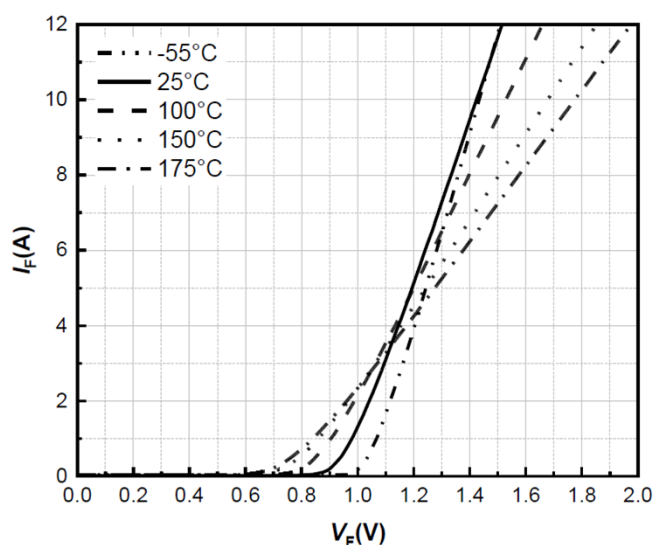
Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DC Blocking Voltage	V_{DC}	$T_J=25^{\circ}\text{C}$	650			V
Forward Voltage	V_F	$I_F = 8\text{A}, T_J=25^{\circ}\text{C}$	-	1.25	1.48	V
		$I_F = 8\text{A}, T_J=175^{\circ}\text{C}$	-	1.32	1.74	
		$I_F = 8\text{A}, T_J=175^{\circ}\text{C}$	-	1.38	1.90	
Reverse Current	I_R	$V_R = 650\text{V}, T_J=25^{\circ}\text{C}$	-	0.5	50	μA
		$V_R = 650\text{V}, T_J=175^{\circ}\text{C}$	-	15	200	
Total Capacitive Charge	Q_C	$V_R = 400\text{V}, T_J=25^{\circ}\text{C}$ $Q_C = \int_0^{V_R} C(V) dV$	-	25	-	nC
Total Capacitance	C	$V_R = 1\text{V}, f = 1\text{MHz}$	-	350	-	pF
		$V_R = 300\text{V}, f = 1\text{MHz}$	-	42	-	
		$V_R = 600\text{V}, f = 1\text{MHz}$	-	36	-	
Capacitance stored energy	E_C	$V_R = 400\text{V}$	-	3.8	-	μJ

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance (Junction to case)	$R_{\theta JC}$	-	1.46	-	$^{\circ}\text{C/W}$

Typical Characteristics



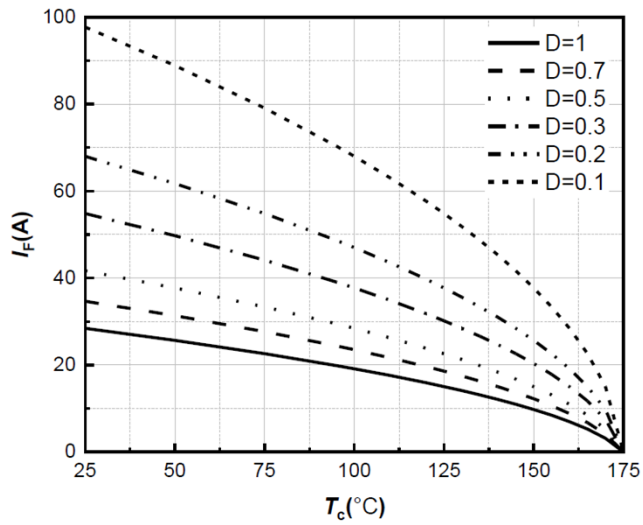


Fig.3 Current Derating

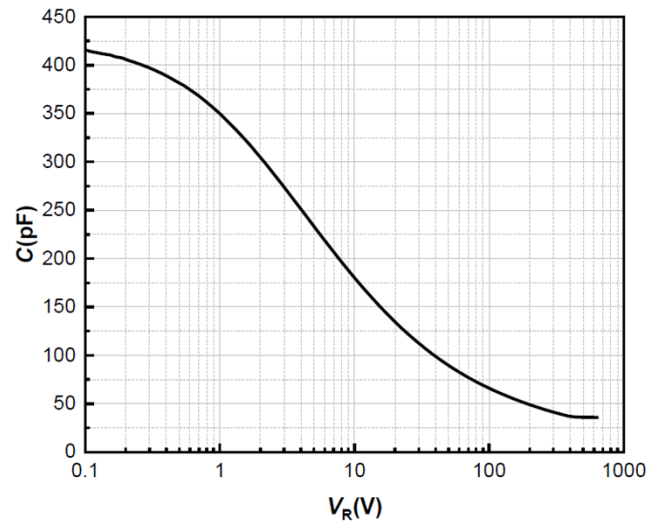


Fig.4 Capacitance vs. Reverse Voltage

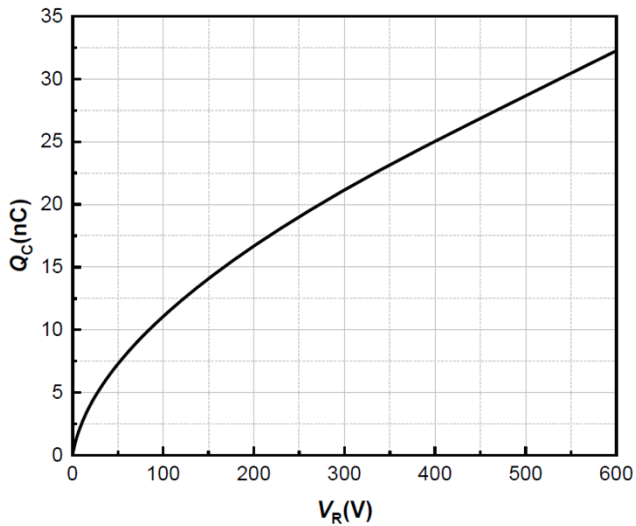


Fig.5 Reverse Charge vs. Reverse Voltage

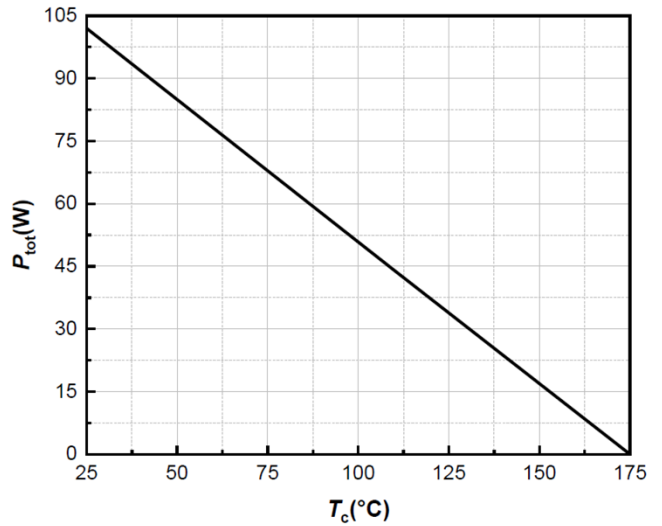


Fig.6 Power Derating

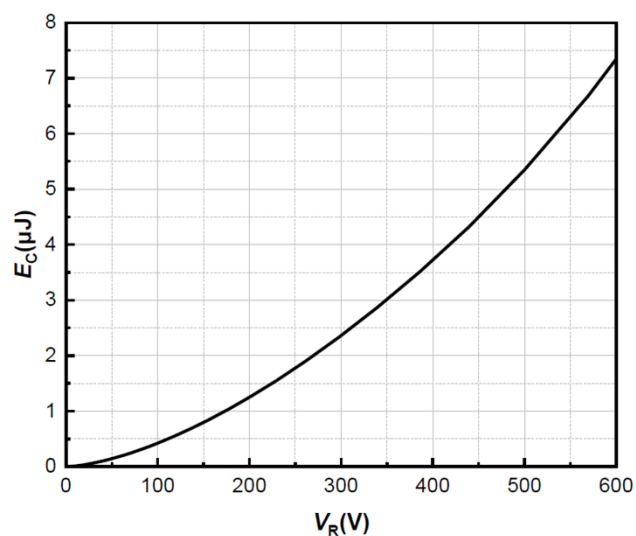


Fig.7 Capacitance Stored Energy

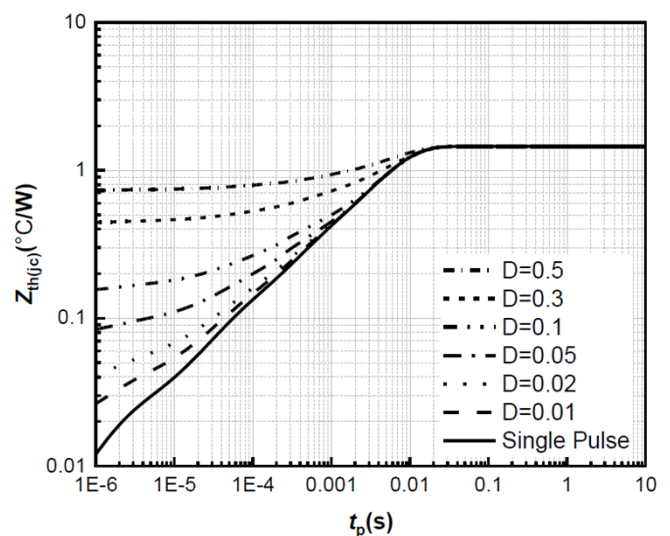
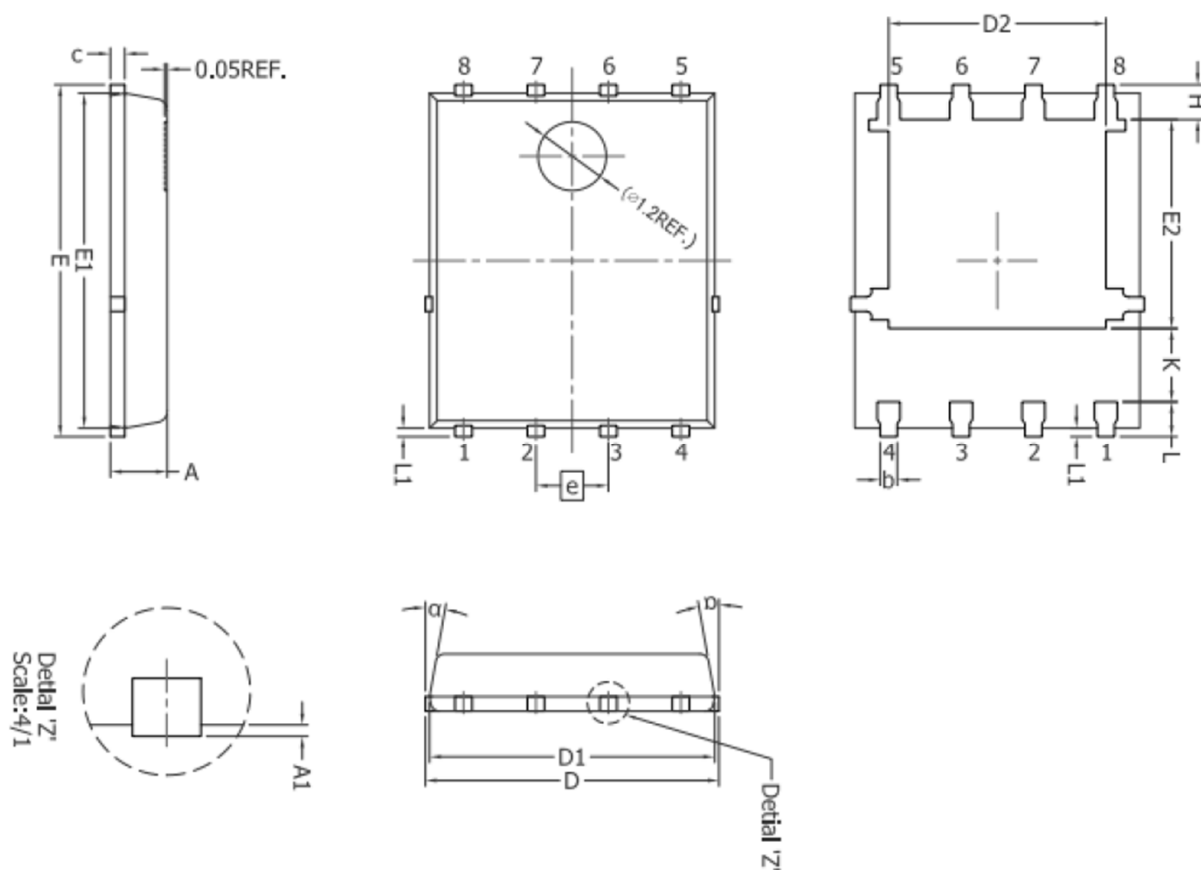


Fig.8 Transient Thermal Impedance

Product Dimension (DFN5060-8L)



SYMBOL	Unit: mm		
	MIN	NOM	MAX
A	0.90	1.00	1.10
A1	0	-	0.05
b	0.30	0.40	0.50
c	0.20	0.25	0.30
D	5.15 BSC		
D1	5.00 BSC		
D2	3.76	3.81	3.86
E	6.15 BSC		
E1	5.80	5.85	5.90
E2	3.45	3.65	3.85
e	1.27 BSC		
H	0.51	0.61	0.71
K	1.10	-	-
L	0.51	0.61	0.71
L1	0.08	0.15	0.23
α	10°	11°	12°

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