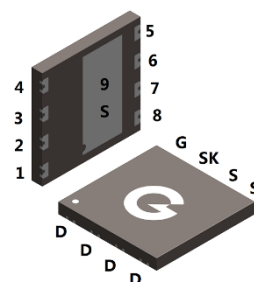
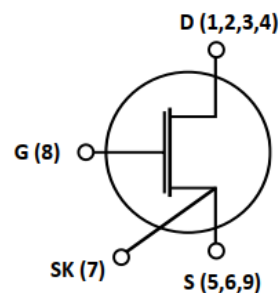


Features

- Enhancement mode transistor-Normally off power switch
- Simple gate drive 0 V to 6 V
- High switching frequency (> 1 MHz)
- Reverse conduction capability
- Zero reverse recovery loss
- Kelvin Source for optimized gate drive

HF



DFN8080-8L

APPLICATIONS

- PD chargers
- Power Adapters
- Power Factor Correction (PFC)
- Appliance Motor Drive
- Industrial Power Supplies

Mechanical Data

- Case: DFN8080-8L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
GAN65R240ZT2	DFN8080-8L	4000 pcs / Tape & Reel	GAN65R240

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

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	650	V
Drain-to-Source Voltage – transient, t _p ≤ 100μs	V _{DSS(transient)}	750	V
Gate-to-Source Voltage	V _{GSS}	-10 ~ +7	V
Gate-to-Source Voltage – transient, t _p ≤ 100μs	V _{GSS(transient)}	-20 ~ +10	V
Continuous Drain Current (T _C = 25°C)	I _D	10	A
Pulsed Drain Current (t _p = 10μs, T _C = 25°C)	I _{DM}	17	A
Pulsed Drain Current (t _p = 10μs, T _C = 150°C)		7.5	A
Power Dissipation (T _C = 25°C)	P _D	78	W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction-to-Case	R _{θJC}	-	-	1.6	°C/W
Thermal Resistance Junction-to-Air *1	R _{θJA}	-	-	35	°C/W

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 650V, V _{GS} = 0V	-	1	50	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = 6V, V _{DS} = 0V	-	50	-	μA
		V _{GS} = -10V, V _{DS} = 0V	-	-2	-	nA
On Characteristics						
R _{DS(ON)}	Drain-Source On-resistance *2	V _{GS} = 6V, I _D = 3.5A	-	160	240	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 5.25mA	1.1	1.7	2.6	V
R _G	Gate Resistance	V _{GS} = 0V, f = 5MHz	-	1.8	-	Ω
Dynamic Characteristics						
C _{ISS}	Input Capacitance	V _{GS} = 0V V _{DS} = 400V f = 100kHz	-	85	-	pF
C _{OSS}	Output Capacitance		-	37	-	
C _{RSS}	Reverse Transfer Capacitance		-	0.3	-	
Switching Characteristics						
t _{d(ON)}	Turn-on Delay Time *3	V _{DD} = 400V V _{GS} = 6V R _{G(ON)} = 10Ω R _{G(OFF)} = 2.2Ω I _D = 6A	-	3.5	-	ns
t _r	Turn-on Rise Time *3		-	6.8	-	
t _{d(OFF)}	Turn-Off Delay Time *3		-	2.1	-	
t _f	Turn-Off Fall Time *3		-	5	-	
Q _G	Total Gate-Charge	V _{DD} = 400V V _{GS} = 6V I _D = 5A	-	2.2	-	nC
Q _{GS}	Gate to Source Charge		-	0.7	-	
Q _{GD}	Gate to Drain (Miller) Charge		-	0.3	-	
Reverse Conduction Characteristics						
V _{SD}	Source-Drain Reverse Voltage *2	I _{SD} = 2A, V _{GS} = 0V	-	2.4	3	V
t _{rr}	Reverse Recovery Time	I _{SD} = 5A V _{DS} = 400V	-	0	-	ns
Q _{rr}	Reverse Recovery Charge		-	0	-	nC
I _{rrm}	Peak Reverse Recovery Current		-	0	-	A

Notes:

- The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper
- The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$
- Guaranteed by design, not subject to production

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

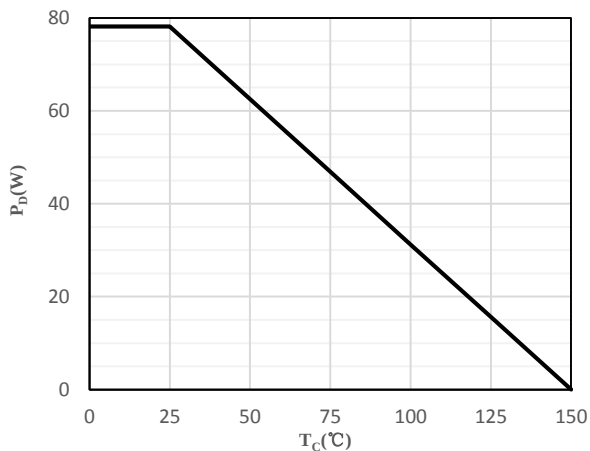


Fig 1 Power Dissipation

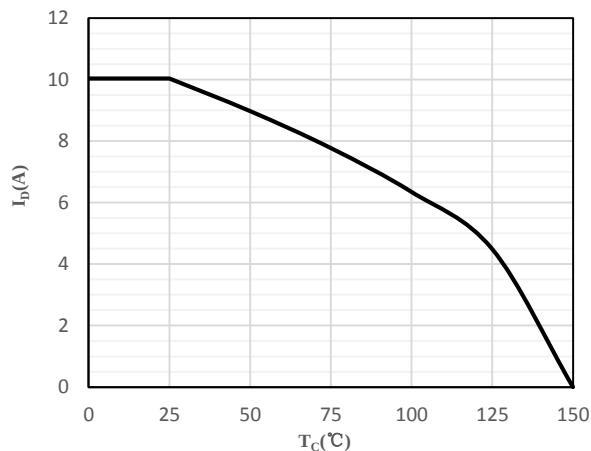


Fig 2 Drain Current

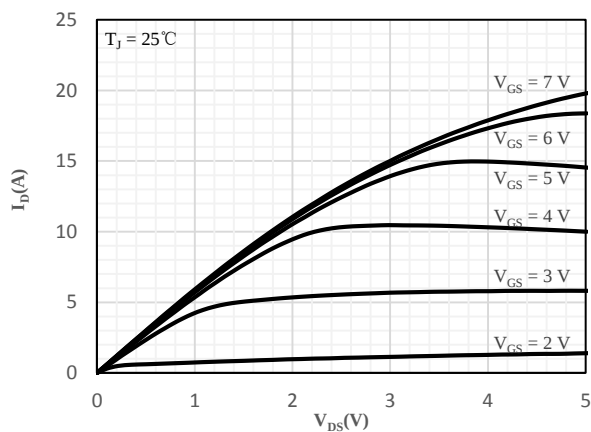


Fig 3 Typical Output Characteristics ($T_J = 25^\circ\text{C}$)

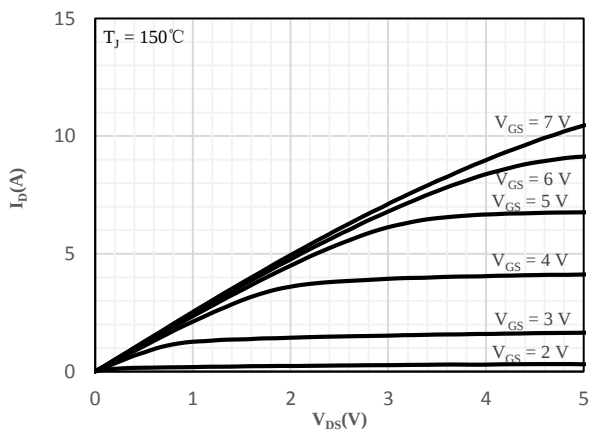


Fig 4 Typical Output Characteristics ($T_J = 150^\circ\text{C}$)

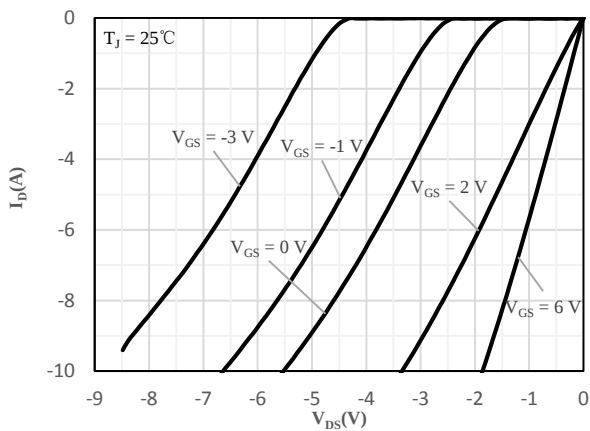


Fig 5 Typical Reverse Conduction Characteristics

($T_J = 25^\circ\text{C}$)

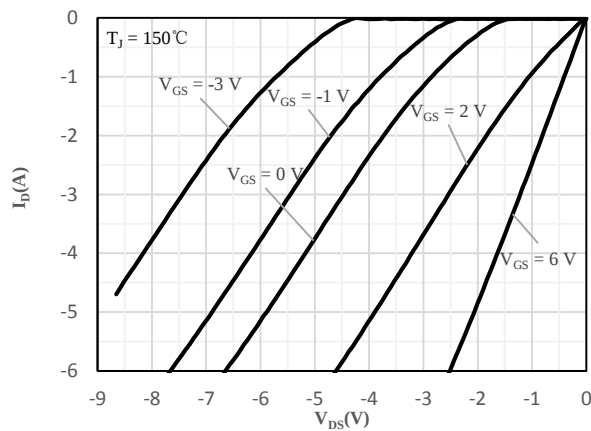


Fig 6 Typical Reverse Conduction Characteristics

($T_J = 150^\circ\text{C}$)

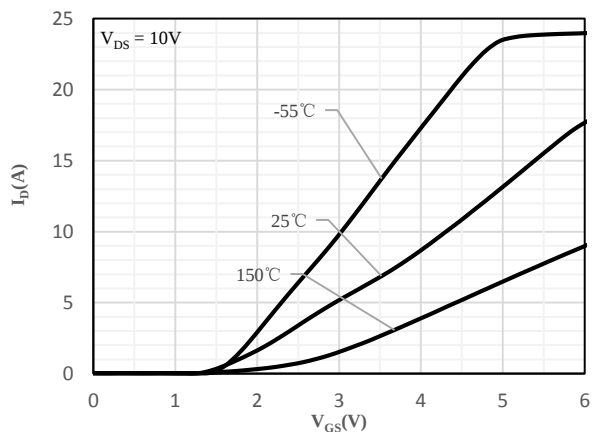


Fig 7 Transfer Characteristics

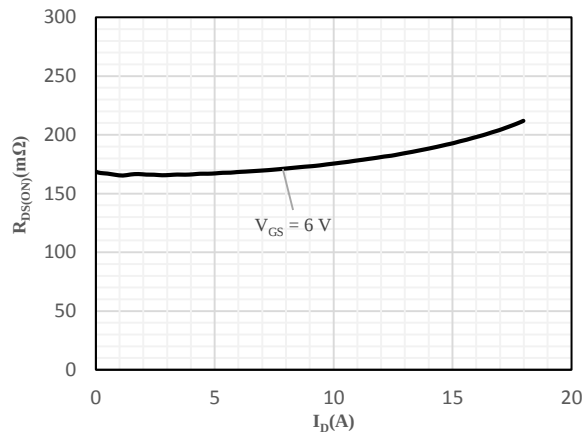


Fig 8 On-Resistance vs. Drain Current
and Gate Voltage

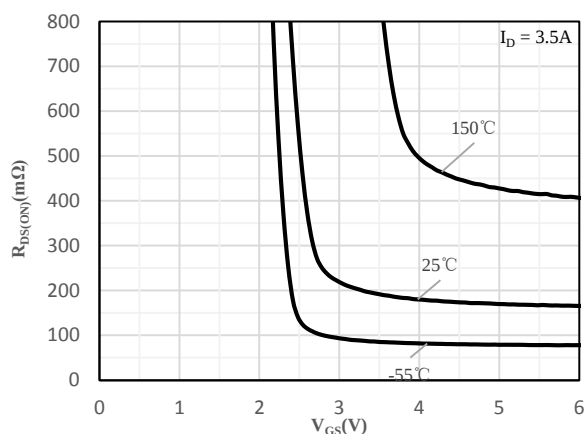


Fig 9 On-Resistance vs. Gate-Source Voltage

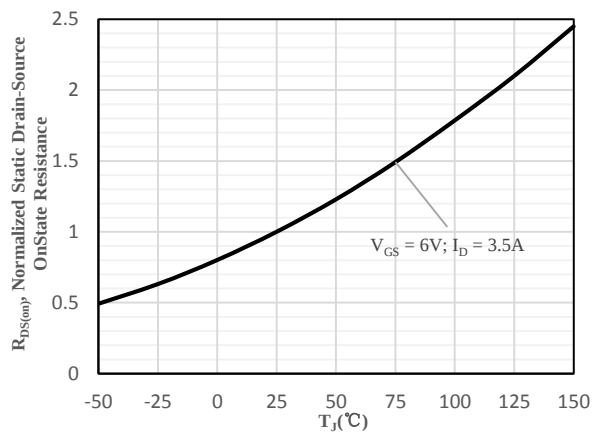


Fig 10 Normalized On-Resistance vs. Junction
Temperature

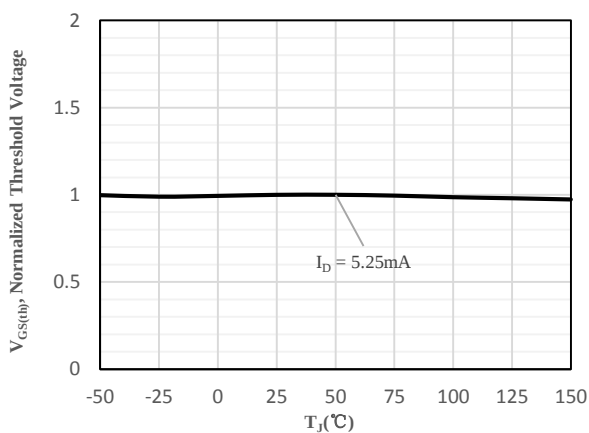


Fig 11 Normalized $V_{GS(th)}$ vs. Junction Temperature

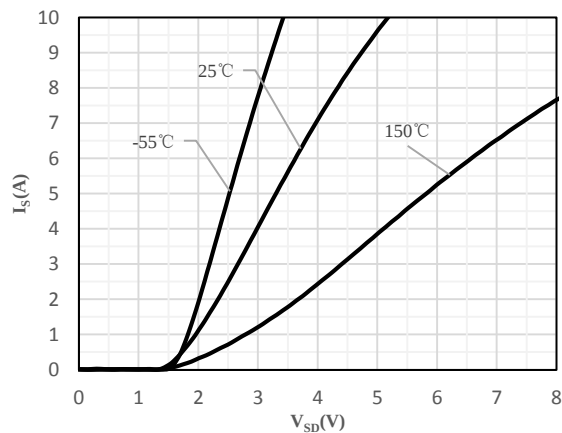
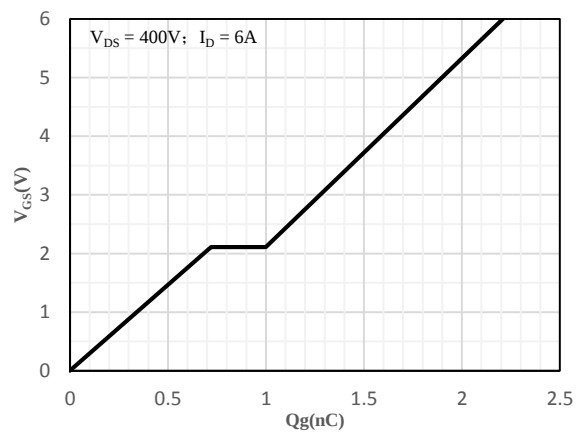
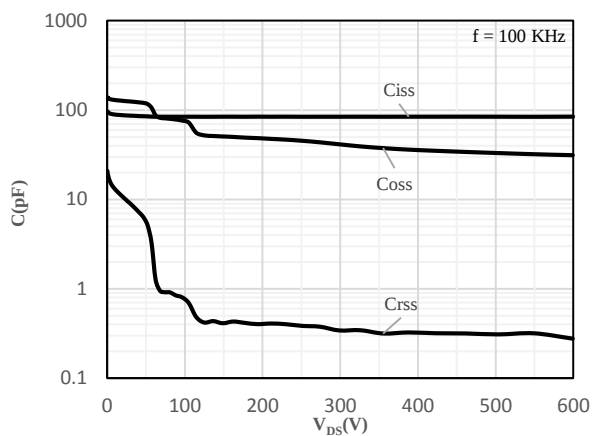
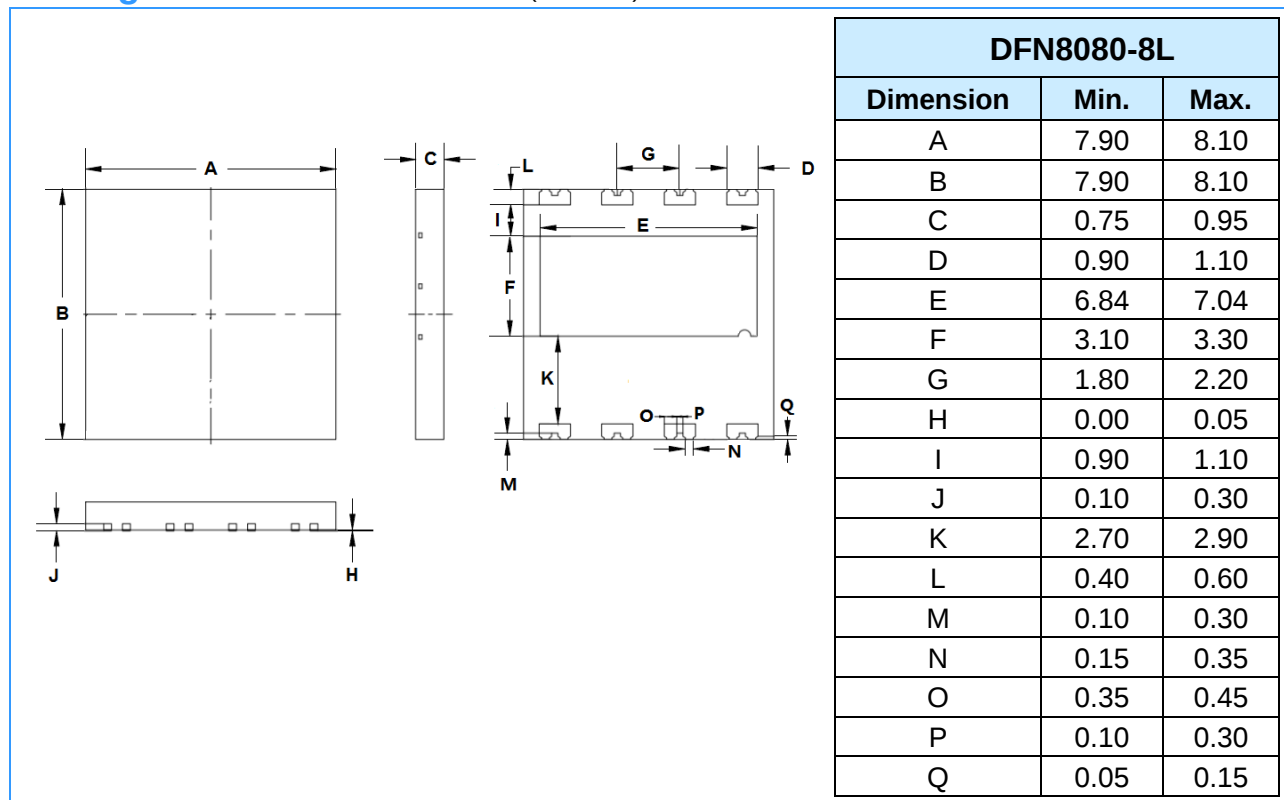


Fig 12 Typical Channel Reverse Characteristics



Package Outline Dimensions (Unit: mm)



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