GaNPower International Inc.

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230 -3410 LOUGHEED HWY
VANCOUVER, BC, V5M 2A4 CANADA

GPI65020DFO(Preliminary)

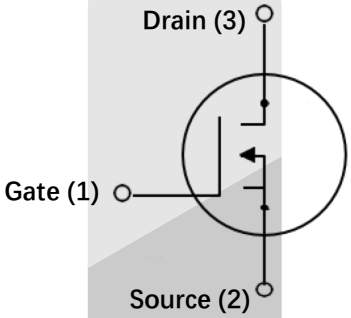
N-channel 650 V, 20 A GaN Power HEMT in 6X8 DFN package

Datasheet — Testing data (Preliminary)

Features

Order Code	V_{dss}	$R_{dson)}$	I_d
GPI65015TO	650 V	65 mΩ	20 A

- Ultra-low R_{DS}(on)
- High dv/dt capability
- Extremely low input capacitance
- Zero Qrr
- Outstanding switching performance



Applications

- Switching Power Applications

Description

These devices are N-channel 650 V Power GaN HEMTs based on proprietary E-mode GaN on silicon technology. The resulting product has extremely low on state resistance, very low input capacitance and zero reverse recovery charge making it especially suitable for applications which require superior power density, ultra-high switching frequency and outstanding efficiency.

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Static Parameters					
				Typical data	
NO.	**Parameters**		**Condition**	**1#**	**Unit**
1	$V_{gs(TH)}$	Gate Threshold Voltage	$V_{ds}=V_{gs}$ Id=4.6mA	1.4	V
2	BV_{dss}	Drain-Source breakdown voltage	V_{gs}=0V I_d=25uA	650	V
3	I_{dss}	Zero gate voltage drain current, T_C = 25℃°	V_{gs}=0V V_{ds}=650V	1.22	uA
4	I_{gss}	Gate-Source Leakage	V_{gs} = 6V V_{ds} =0V	12.7	uA
5	R_{dson}	static Drain-Source on resistance, T_C = 25℃°	V_{gs}=6V I_d=7.5A	0.065	Ω
6	V_{sd}	Body diode forward voltage	I_{sd}=1A V_{gs}=0V	1.79	V
Dynamic Parameters				**Typical data**	**Unit**
1	capacitance	C_{iss}	V_{gs}=0V V_{ds}=400V f=1MHz		pf
		C_{oss}			pf
		C_{rss}			pf
3	Q_g	Gate charge	V_{ds}=400V I_d=7.5A V_{gs}=6V		nC
	Q_{gS}				nC
	Q_{gd}				nC
Switching Performance				**Test data**	**Unit**
1	$t_{d(on)}$	Turn-on delay time	V_{ds}=400V I_d=2.5A R_g=10Ω V_{gs}=6V		ns
2	t_r	Rise time			ns
3	$t_{d(off)}$	Turn-off delay time			ns
4	t_f	Fall time			ns

Rdson vs. Id (DC measurement)

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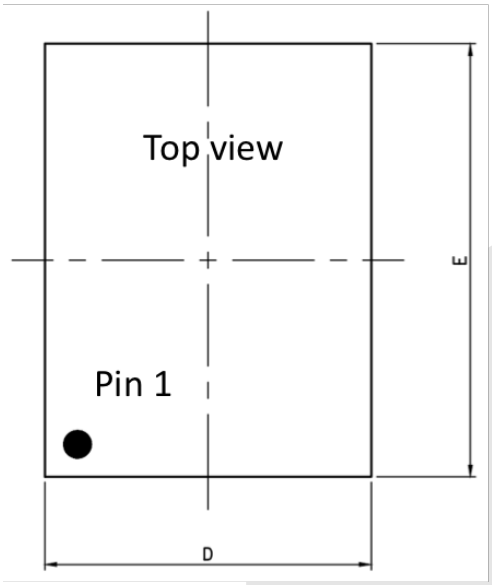

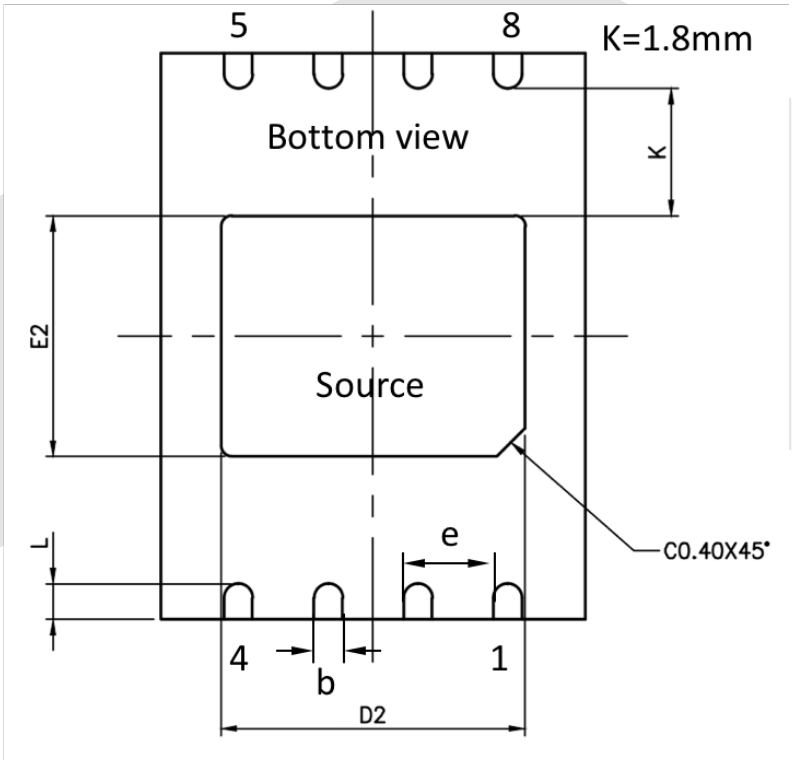

D=6; E=8; e=1.27; b=0.4
L=0.5; D2=4.3; E2=3.4

8LEAD DFN(6x8x0.75MM,pitch 1.27 mm)(3.40 x 4.30 mm Exposed area)

Bottom thermal pad and Pin 1,2,3=source ; pin 4=gate; pin 5,6,7,8=drain

IMPORTANT: Please connect the bottom thermal pad to the source electrode on PCB