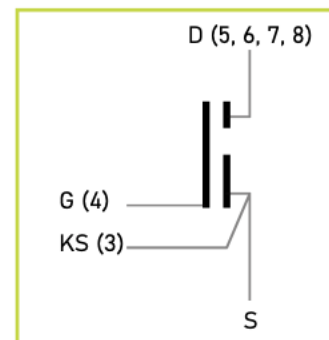


DESCRIPTION

The WI71060A is an enhancement mode GaN-on-silicon discrete power transistor of the WiseGaN™ portfolio family of Wise-integration. The properties of GaN allow high current, high voltage breakdown and high switching frequency.

APPLICATIONS

- High efficiency power conversion
- High density power conversion
- AC-DC, DC-DC, DC-AC
- Bridgeless Totem Pole PFC
- ACF (active clamp flyback)
- QRF (quasi resonant flyback)
- LLC resonant converter
- Half-bridge topologies
- Synchronous Buck or Boost
- Small-Medium UPS
- Fast Battery Charging



FEATURES

- 700 V enhancement mode transistor
- Bottom-side cooled configuration
- $R_{DS(on)} = 60 \text{ m}\Omega$
- $I_{DS(max)} = 30 \text{ A}$
- Low inductance PDFN package
- Easy gate drive requirements (-4 V to +6 V)
- High switching frequency (>1 MHz)
- Zero reverse recovery loss
- Small 8 x 8 mm PCB footprint

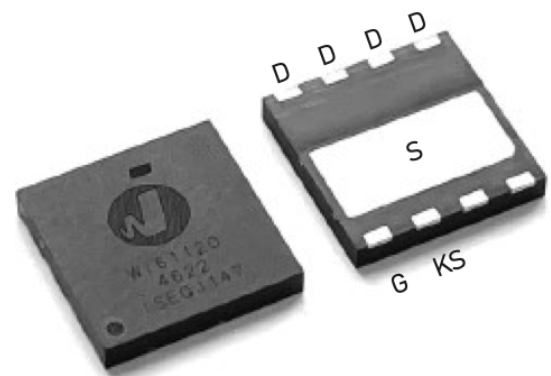


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1. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
DRAIN-TO-SOURCE TRANSIENT VOLTAGE ¹	VDS	750	V
GATE-TO-SOURCE TRANSIENT VOLTAGE ²	VGS	7	V
OPERATING JUNCTION TEMPERATURE	T _J	-40 to +150	°C
OPERATING STORAGE TEMPERATURE	T _{stg}	-55 to +150	°C

¹ maximum duration is < 1 ms

² can permanently impact the device functional performance

2. OPERATING CONDITIONS

Parameter	Symbol	Value	Units
CONTINUOUS DRAIN-TO-SOURCE VOLTAGE	VDS (max)	700	V
GATE-TO-SOURCE VOLTAGE	VGS	-4 to +6	V
CONTINUOUS DRAIN CURRENT (T _J = 25 °C)	IDS	30	A

3. THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
THERMAL RESISTANCE (JUNCTION-TO-CASE) – BOTTOM SIDE	R _{θJC}	0.9	K/W
THERMAL RESISTANCE (JUNCTION-TO-AMBIENT)	R _{θJA}	32	K/W

4. ESD RATINGS

Parameter	Symbol	Value	Units
HUMAN BODY MODEL	HBM	2000	V
CHARGED DEVICE MODEL	CDM	2000	V

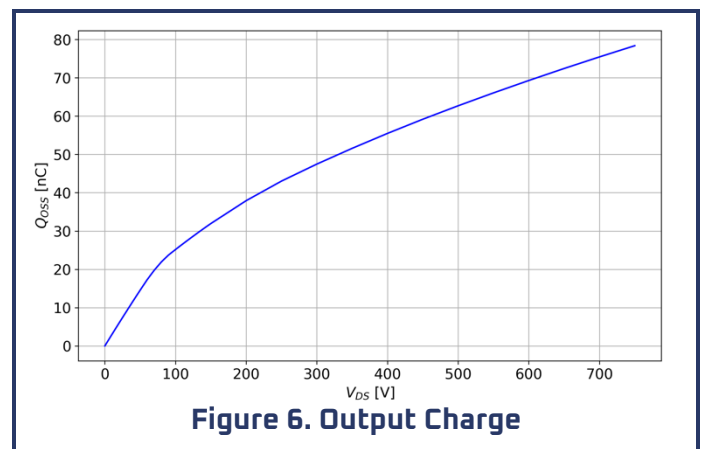
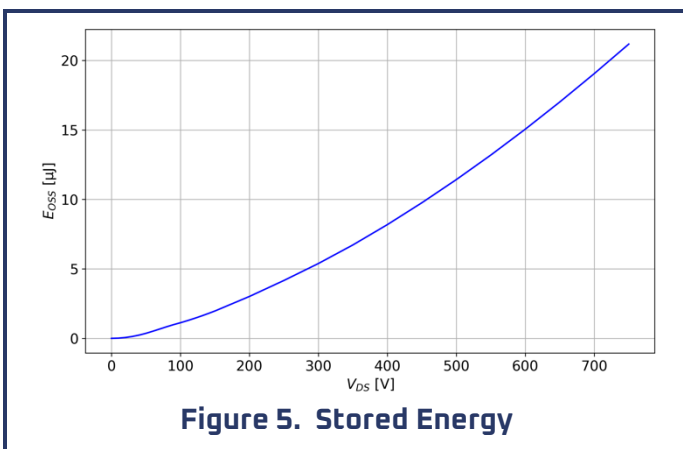
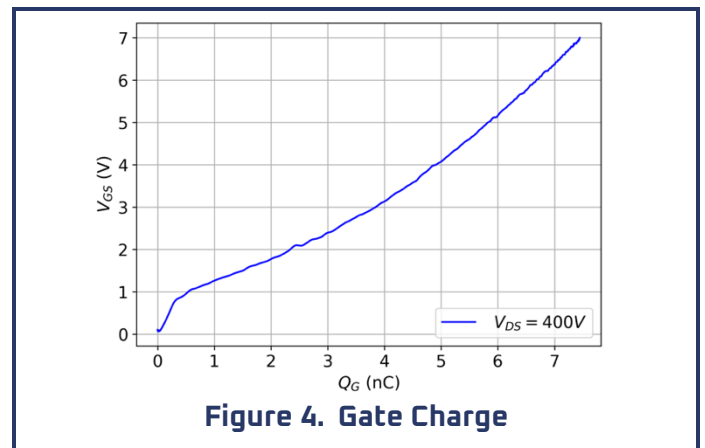
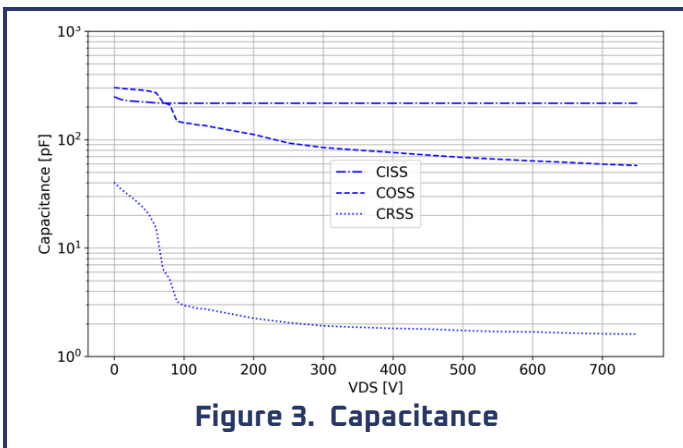
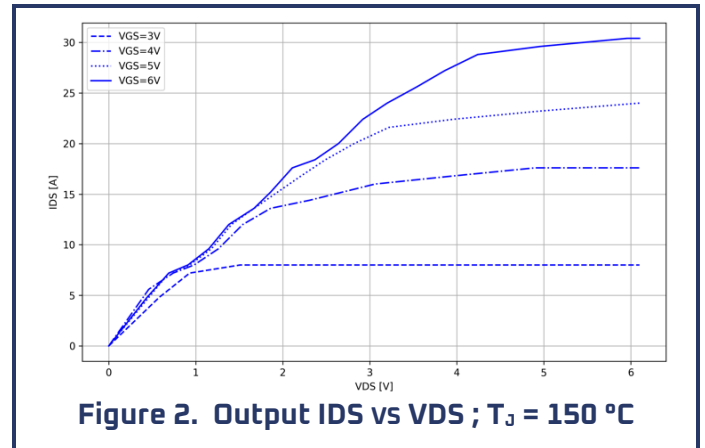
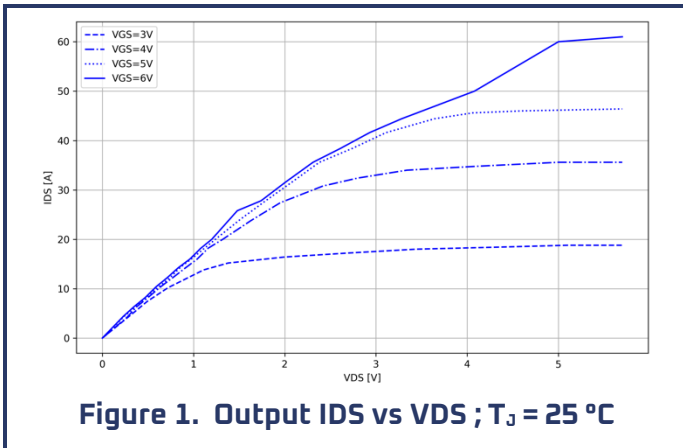
5. STATIC ELECTRICAL CHARACTERISTICS

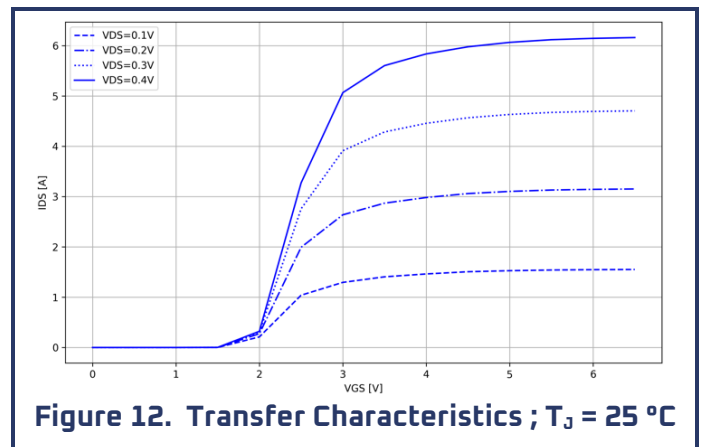
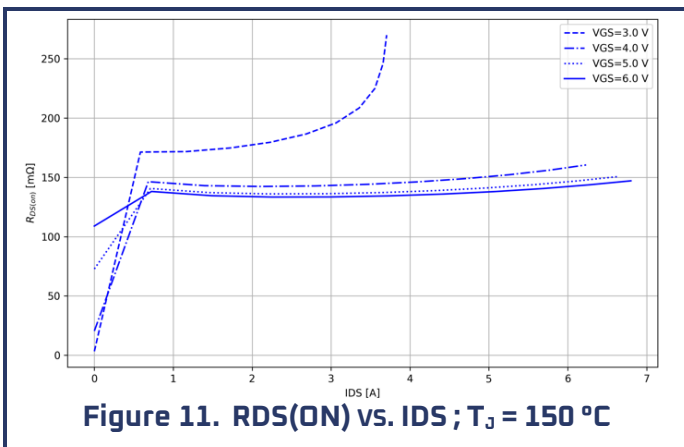
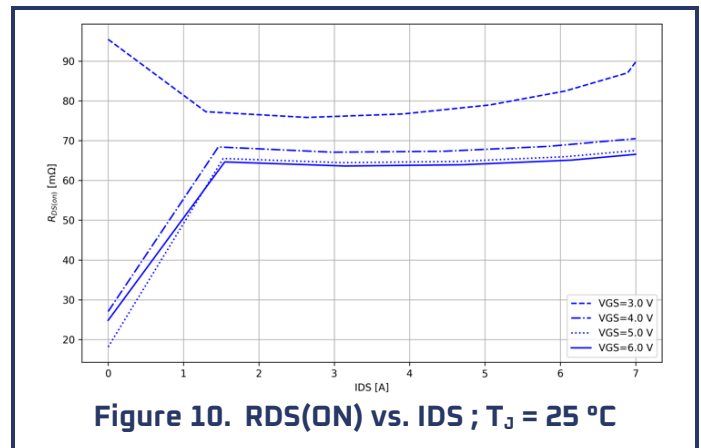
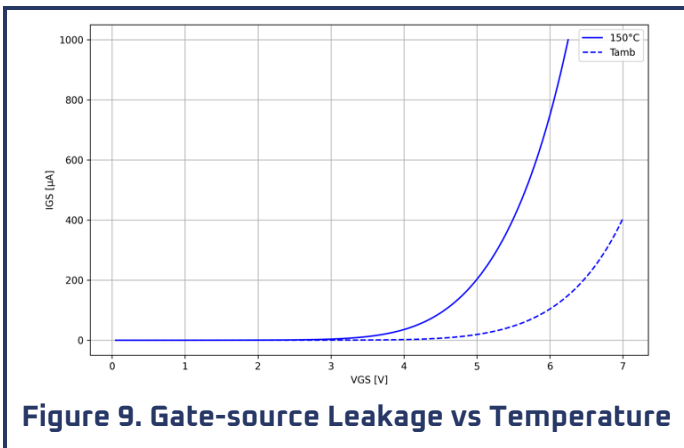
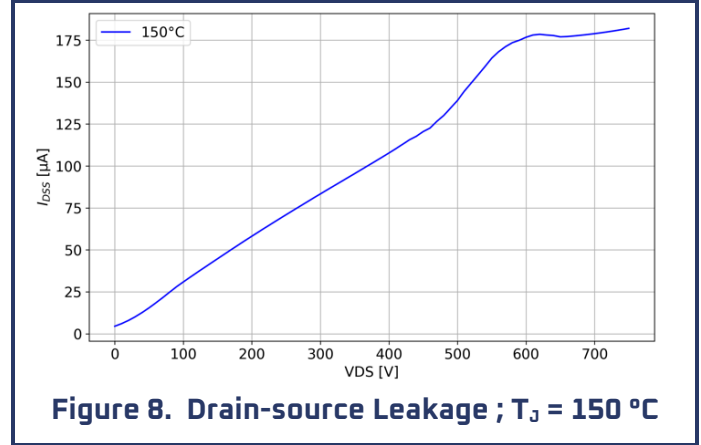
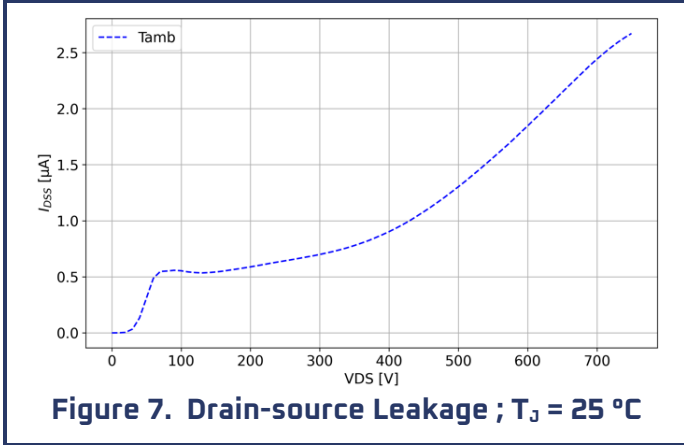
Characteristics	Symbol	Conditions	Min	Typ	Max	Units
DRAIN-SOURCE ON-RESISTANCE	RDS(ON)	VGS = 6 V, T _J = 25 °C, IDS = 2 A	55	60	65	mΩ
		VGS = 6 V, T _J = 150 °C, IDS = 2 A		140		mΩ
GATE THRESHOLD VOLTAGE	VGS(th)	VDS = VGS, T _J = 25 °C, IDS = 10 mA	1.1	1.4	2.2	V
		VDS = VGS, T _J = 150 °C, IDS = 10 mA		1.2		V
INTERNAL GATE RESISTANCE	Rg	Open drain (T _J = 25 °C)		3.8		Ω
DRAIN-TO-SOURCE LEAKAGE CURRENT	IDSS	VDS = 650 V, VGS = 0 V, T _J = 25 °C	0.3	1	6	μA
		VDS = 650 V, VGS = 0 V, T _J = 150 °C		12		μA
GATE-TO-SOURCE LEAKAGE CURRENT	IGSS	VGS = 6 V, VDS = 0 V, T _J = 25 °C	5	30	200	μA
		VGS = 6 V, VDS = 0 V, T _J = 150 °C		200		μA
SOURCE-TO-DRAIN REVERSE VOLTAGE	VSD	VGS = 0 V, ISD = 6 A		2.2		V

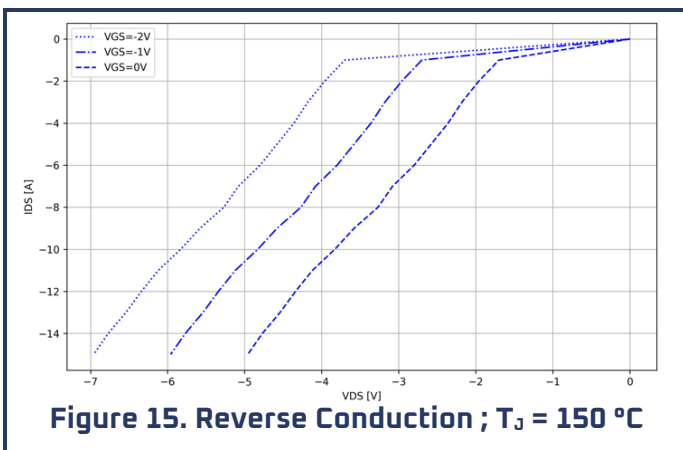
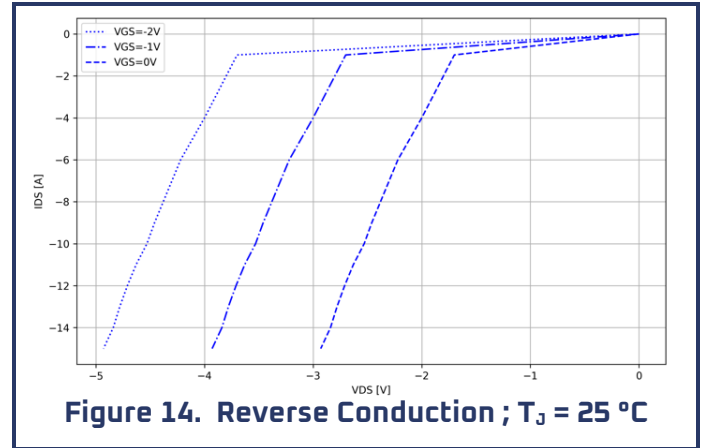
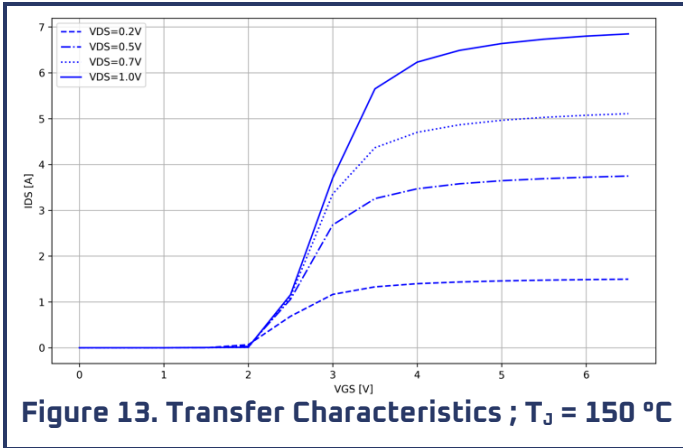
6. DYNAMIC ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Conditions	Min	Typ	Max	Units
INPUT CAPACITANCE	CISS	VDS = 400 V, VGS = 0 V, F = 100 kHz		216		pF
REVERSE TRANSFER CAPACITANCE	CRSS	VDS = 400 V, VGS = 0 V, F = 100 kHz		2		pF
OUTPUT CAPACITANCE	COSS	VDS = 400 V, VGS = 0 V, F = 100 kHz		77		pF
TOTAL GATE CHARGE	QG	VDS = 400 V, VGS = 0 V to 6 V		7		nC
OUTPUT CHARGE	QOSS	VDS = 400 V, VGS = 0 V		61		nC
OUTPUT CAPACITANCE	EOSS	VDS = 400 V, VGS = 0 V		9		μJ
STORED ENERGY	CO(ER)	VDS = 0 V to 400 V, VGS = 0 V		110		pF
EFFECTIVE OUTPUT CAPACITANCE	CO(TR)	VDS = 0 V to 400 V, VGS = 0 V		153		pF

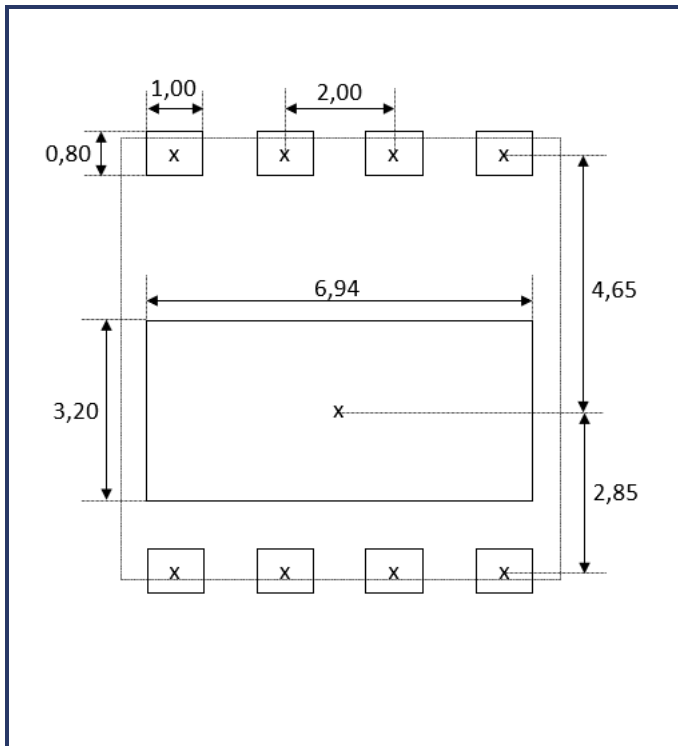
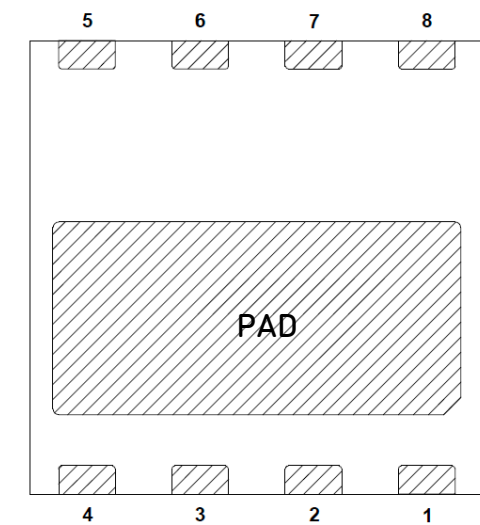
7. STATIC MAIN CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$ UNLESS OTHERWISE NOTED)







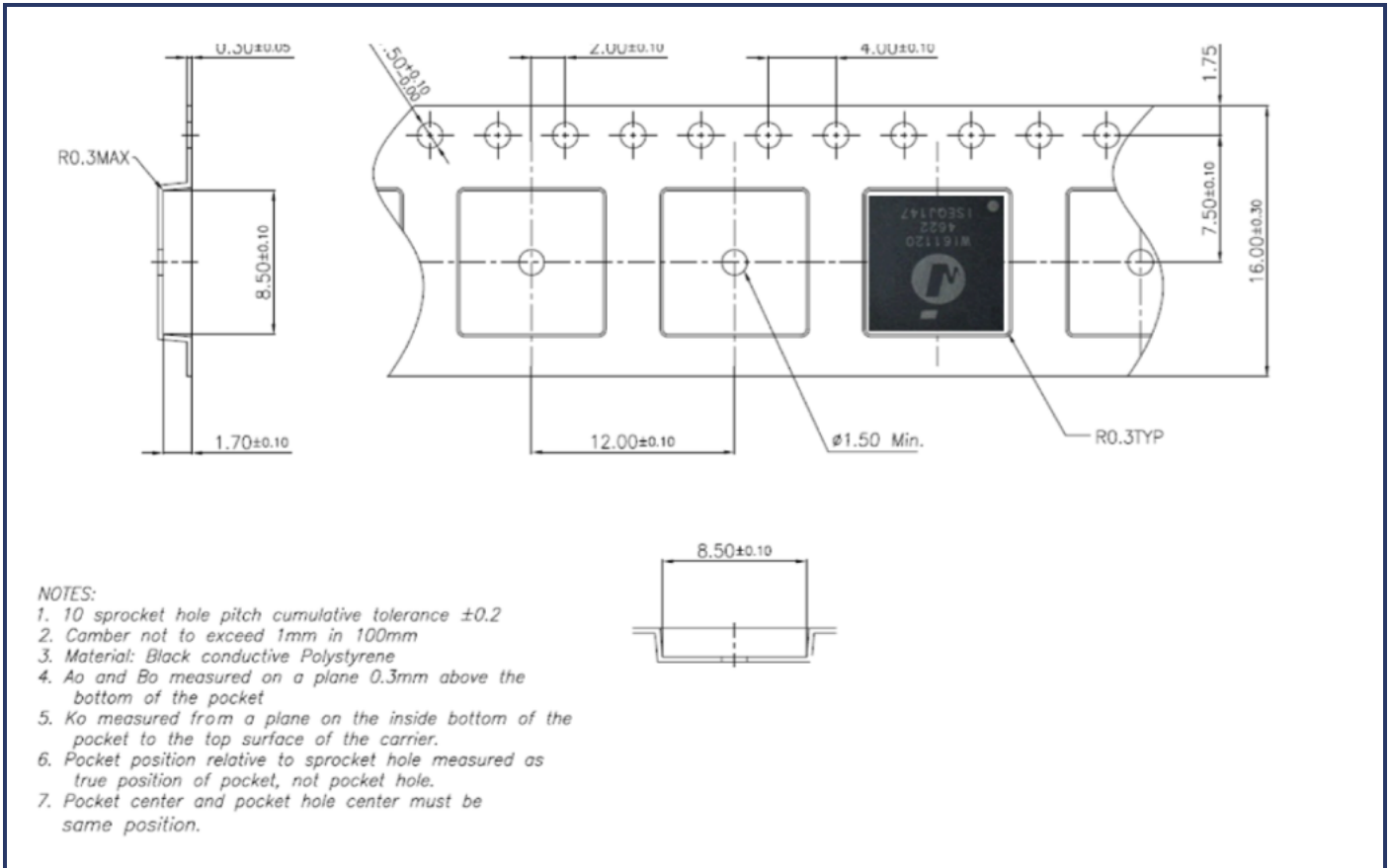
8. PACKAGE AND PACKING INFORMATION

Land Pattern

Pinout

Bottom view with pads connection

Number	Name	Function	Description
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Number	Name	Function	Description
1		NC	Not connected internally, may be connected to the Source
2		NC	Not connected internally, may be connected to the Source
3	KS	Signal	Kelvin source of the GaN transistor
4	G	Signal	Gate of low side GaN transistor
5	D	Power	Drain of high side GaN transistor
6	D	Power	Drain of high side GaN transistor
7	D	Power	Drain of high side GaN transistor
8	D	Power	Drain of high side GaN transistor
PAD	S	Power	Source of the GaN transistor

Tape and Reel Dimensions (in mm)



9. ORDERING INFORMATION

Ordering code	Package	Packing method	Qty
WI71060ATR	8 x 8 mm DFN	Tape and Reel	2500

10. REVISIONS HISTORY

Revision	Date	Comments
1.0	2025-02-12	Initial version
1.1	2026-02-17	Update VGS(th) at 25°C

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