

Dual N-Channel Enhancement Mode MOSFET

1. Product Information

1.1 Features

- ☒ Surface-mounted package
- ☒ Advanced trench cell design
- ☒ Extremely low threshold voltage
- ☒ ESD: 2 kV

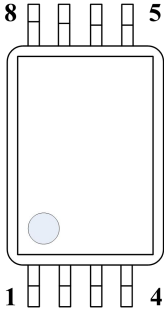
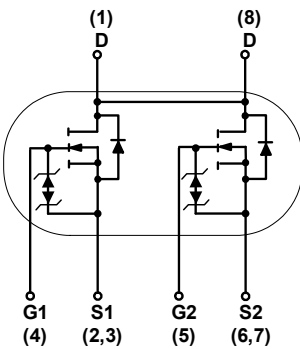
1.2 Applications

- ☒ Portable appliances
- ☒ Battery management

1.3 Quick reference

- ☒ $BV \geq 20\text{ V}$
- ☒ $P_{tot} \leq 1.25\text{ W}$
- ☒ $I_D \leq 6.8\text{ A}$
- ☒ $R_{DS(ON)} \leq 17\text{ m}\Omega @V_{GS} = 4.5\text{ V}$
- ☒ $R_{DS(ON)} \leq 20\text{ m}\Omega @V_{GS} = 2.5\text{ V}$

2. Pin Description

Pin	Description	Simplified Outline	Symbol
1	Drain(D)	 Top View TSSOP8	
2,3	Source(S1)		
4	Gate(G1)		
5	Gate(G2)		
6,7	Source(S2)		
8	Drain(D)		

3. Limiting Values

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	Drain-Source Voltage	$T_A=25^{\circ}\text{C}$	20	-	V
V_{GS}	Gate-Source Voltage	$T_A=25^{\circ}\text{C}$	-	± 12	V
I_D	Drain Current	$T_A=25^{\circ}\text{C}, V_{GS}=4.5\text{ V}$	-	6.8	A
		$T_A=100^{\circ}\text{C}, V_{GS}=4.5\text{ V}$	-	4.3	A
I_{DM}^*	Pulsed Drain Current	$T_A=25^{\circ}\text{C}, V_{GS}=4.5\text{ V}$	-	27	A
P_{tot}	Total Power Dissipation	$T_A=25^{\circ}\text{C}$	-	1.25	W
T_{stg}	Storage Temperature		-55	150	$^{\circ}\text{C}$
T_J	Junction Temperature		-55	150	$^{\circ}\text{C}$
I_S	Diode Forward Current	$T_A=25^{\circ}\text{C}$	-	6.8	A
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient			100	$^{\circ}\text{C/W}$

Notes:

- * Pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.
- ** Surface mounted on 1 in^2 pad area, $t \leq 10\text{ sec}$.

4. Marking Information

Product Name	Marking
KJ8822A	8822

5. Ordering Code

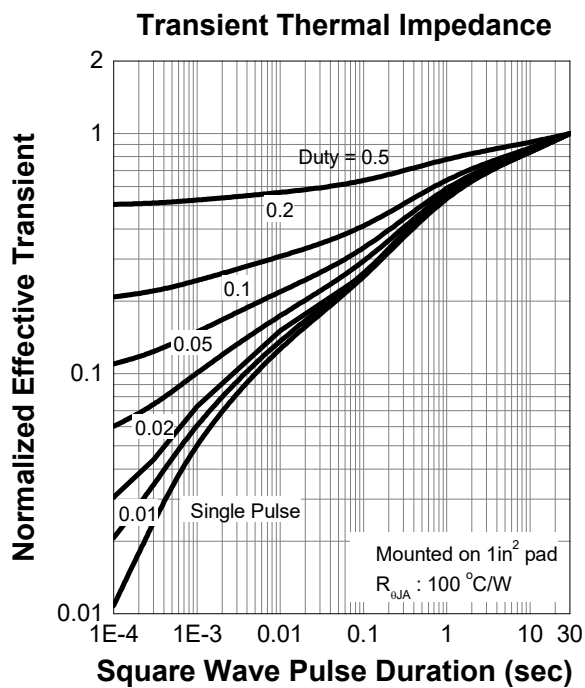
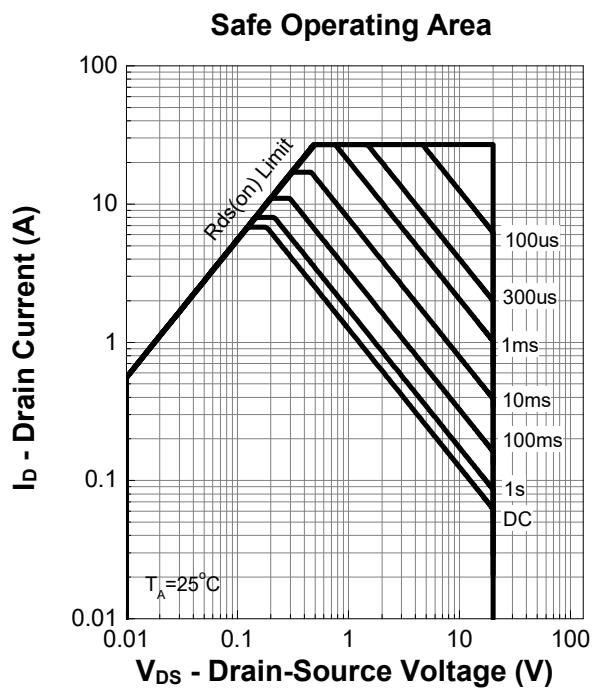
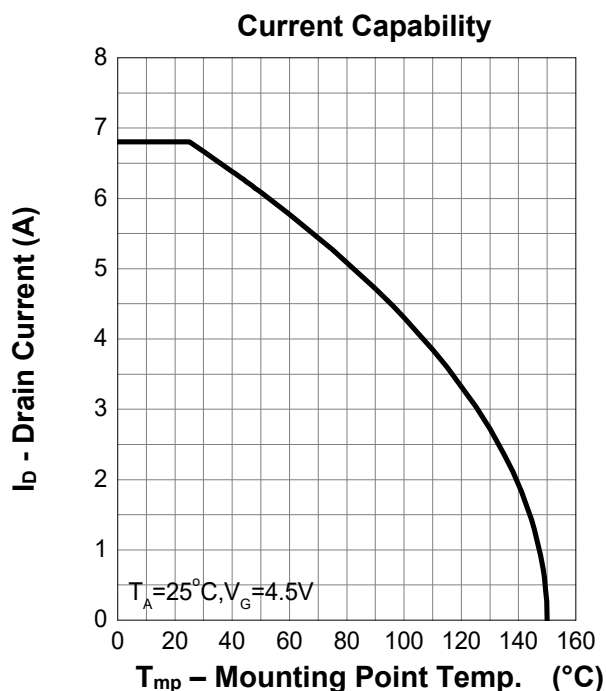
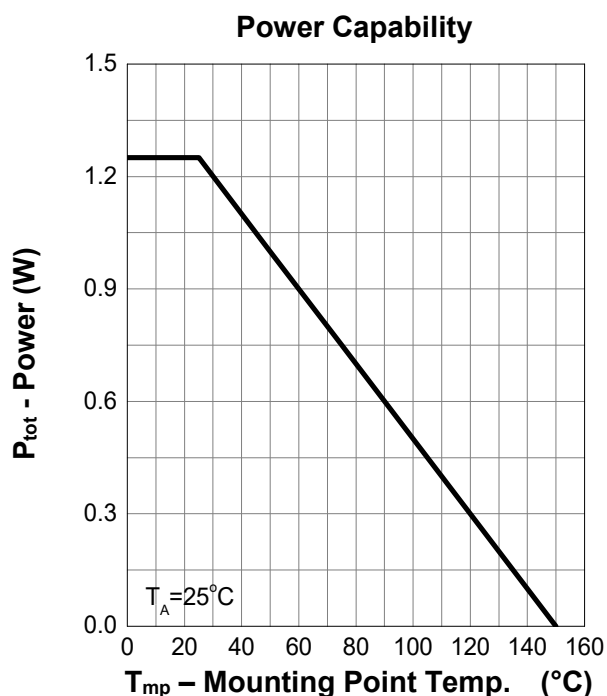
Product Name	Package	Reel size	Tape width	Quantity (pcs)
KJ8822A	TSSOP8			3000

Note: KUIJIEXIN defines "Green" as lead-free (RoHS compliant) and halogen free (Br or Cl does not exceed 900 ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500 ppm by weight; Follow IEC 61249-2-21 and IPC/JEDEC J-STD-020C).

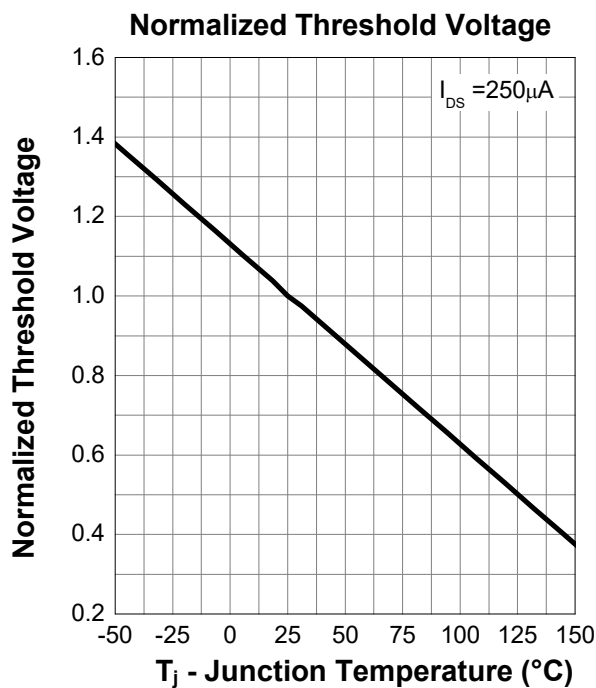
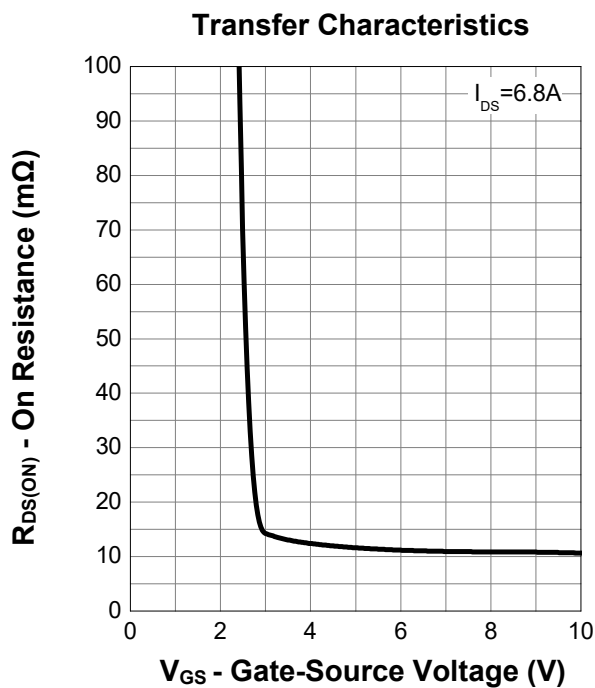
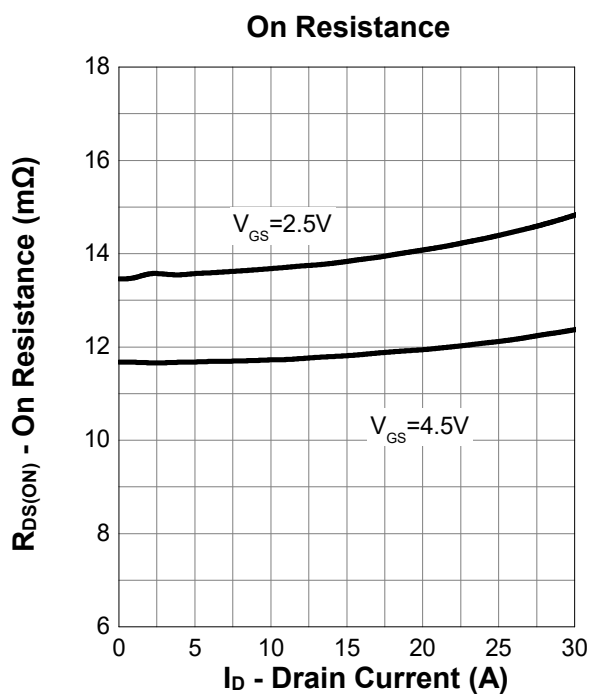
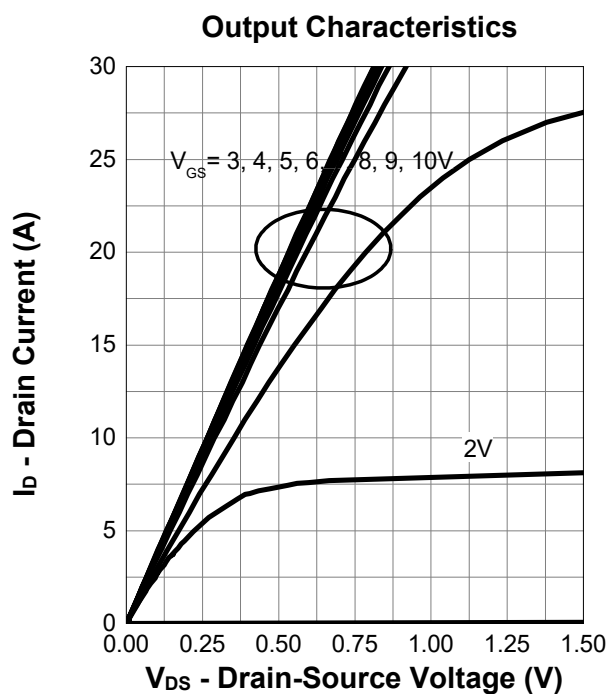
6. Electrical Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0 V, I _{DS} =250 μA	20	-	-	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250 μA	0.5	-	1	V
I _{DSS}	Drain Leakage Current	V _{DS} =16 V, V _{GS} =0 V	-	-	1	μA
		T _J =85°C	-	-	30	μA
I _{GSS}	Gate Leakage Current	V _{GS} =±10 V, V _{DS} =0 V	-	-	±10	μA
		V _{GS} =±4.5 V, V _{DS} =0 V	-	-	±0.8	
R _{DS(ON)}	On-State Resistance	V _{GS} =4.5 V, I _{DS} =6.8 A	-	15	17	mΩ
		V _{GS} =2.5 V, I _{DS} =5 A	-	18	20	
Diode Characteristics						
V _{SD}	Diode Forward Voltage	I _{SD} =6.8 A, V _{GS} =0 V	-	0.7	1.1	V
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0 V, V _{DS} =10 V Frequency=1 MHz	-	666	-	pF
C _{oss}	Output Capacitance		-	100	-	
C _{rss}	Reverse Transfer Capacitance		-	85	-	
t _{d(on)}	Turn-on Delay Time	V _{DS} =10 V, V _{GEN} =4.5 V, R _G =6 Ω, R _L =1.47 Ω, I _{DS} =6.8 A	-	0.12	-	μS
t _r	Turn-on Rise Time		-	0.29	-	
t _{d(off)}	Turn-off Delay Time		-	3.63	-	
t _f	Turn-off Fall Time		-	2.55	-	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{GS} =4.5 V, V _{DS} =10 V, I _{DS} =6.8 A	-	22	-	nC
Q _{gs}	Gate-Source Charge		-	0.5	-	
Q _{gd}	Gate-Drain Charge		-	1.7	-	

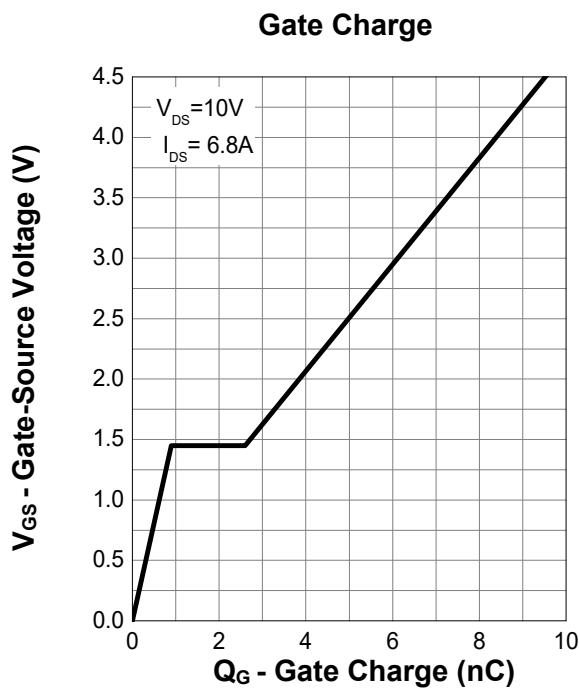
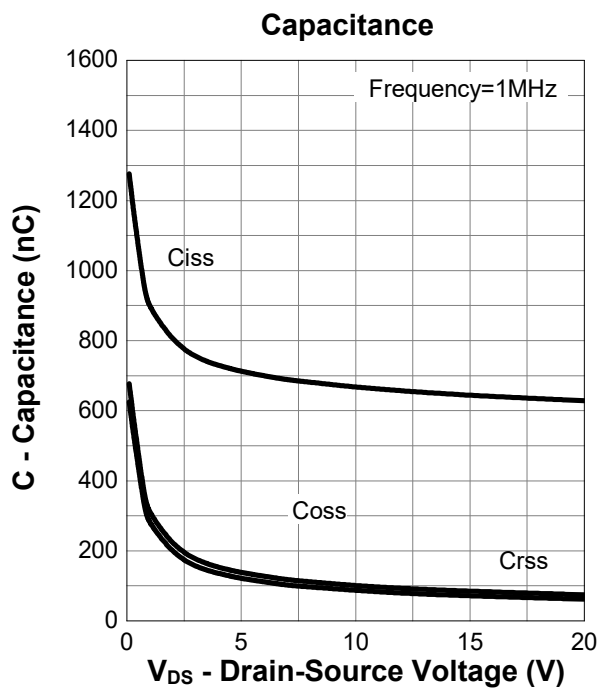
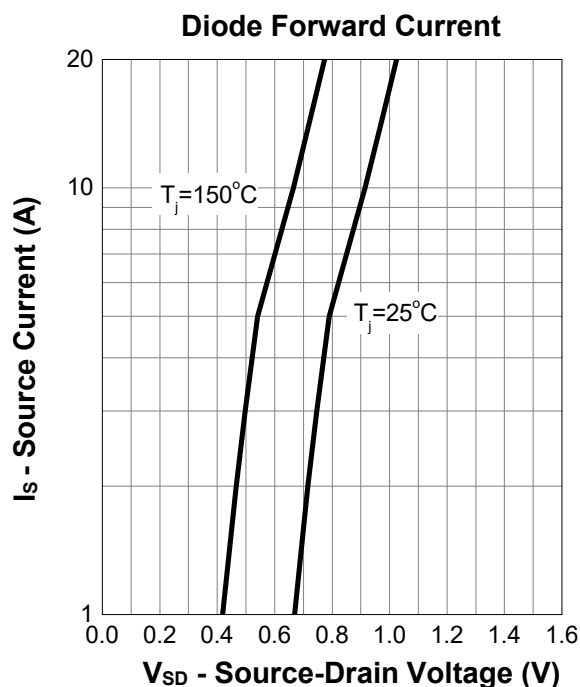
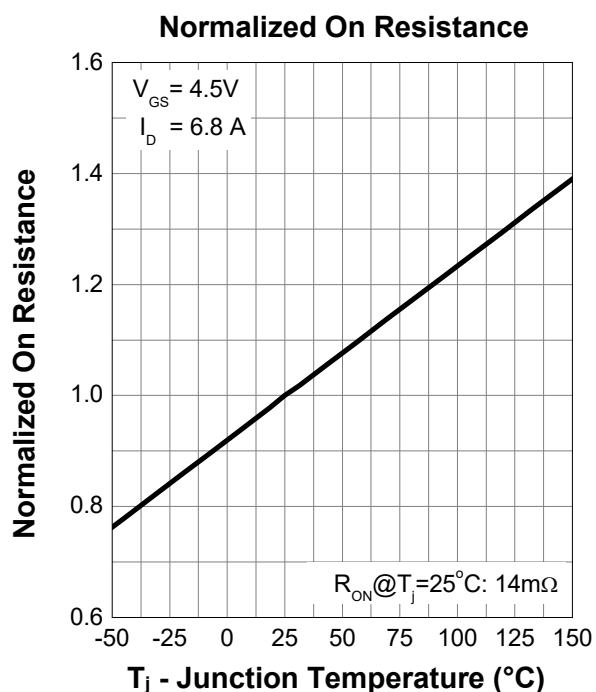
7. Typical Characteristics



7. Typical Characteristics (cont.)

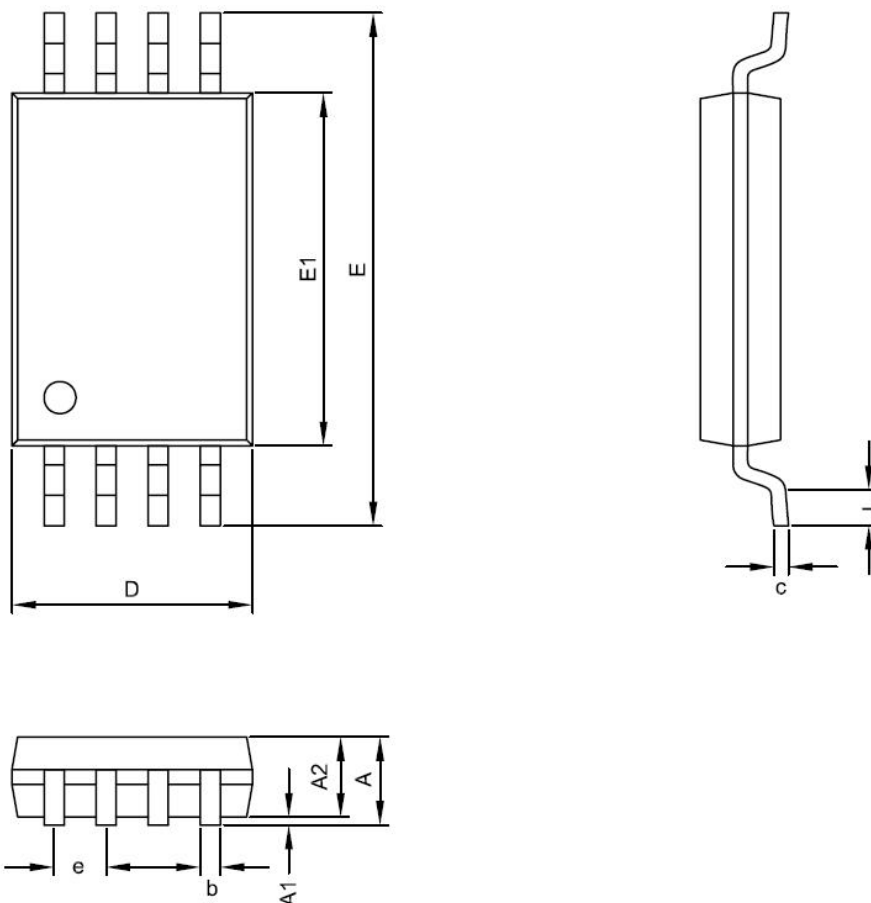


7. Typical Characteristics (cont.)



8. Package Dimensions

TSSOP-8 Package



Symbol	Dimensions In Millimeters	
	MIN.	MAX.
A	—	1.20
A1	0.00	0.15
A2	0.85	1.05
D	2.90	3.10
E	6.20	6.60
E1	4.30	4.50
c	0.09	0.20
b	0.19	0.30
e	0.65 BSC	
L	0.45	0.75