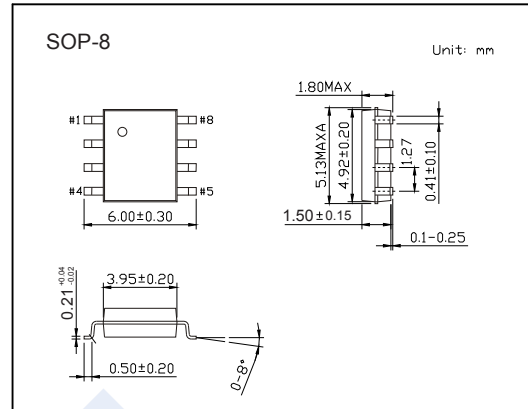


## Dual N-Channel MOSFET

### KI8810DY

#### ■ Features

- $V_{DS} (V) = 20V$
- $I_D = 7 A$
- $R_{DS(ON)} < 20m\Omega$  ( $V_{GS} = 4.5V$ )
- $R_{DS(ON)} < 30m\Omega$  ( $V_{GS} = 2.5V$ )
- $R_{DS(ON)} < 50m\Omega$  ( $V_{GS} = 1.8V$ )
- ESD Rating: 2KV HBM



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 8$	
Continuous Drain Current	$I_D$	$T_A=25^\circ C$	7
		$T_A=70^\circ C$	5.7
Pulsed Drain Current	$I_{DM}$	25	A
Power Dissipation	$P_D$	$T_A=25^\circ C$	1.25
		$T_A=70^\circ C$	0.8
Thermal Resistance.Junction- to-Ambient	$R_{thJA}$	$t \leq 10s$	100
		Steady-State	156
Thermal Resistance.Junction- to-Lead	$R_{thJC}$	57.6	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

## Dual N-Channel MOSFET

### KI8810DY

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =250 μA, V <sub>GS</sub> =0V	20			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> =0V			1	μA
		V <sub>DS</sub> =20V, V <sub>GS</sub> =0V, T <sub>J</sub> =55°C			5	
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±8V			±10	
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 μA	0.4		1.1	V
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =7A			20	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =5.5A			30	
		V <sub>GS</sub> =1.8V, I <sub>D</sub> =5A			50	
On State Drain Current	I <sub>D(ON)</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =5V	25			A
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =7A		12		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =10V, f=1MHz		1200		pF
Output Capacitance	C <sub>oss</sub>			160		
Reverse Transfer Capacitance	C <sub>rss</sub>			80		
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =10V, I <sub>D</sub> =7A			14	nC
Gate Source Charge	Q <sub>gs</sub>			4.2		
Gate Drain Charge	Q <sub>gd</sub>			2.6		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =10V, R <sub>L</sub> =1.54 Ω, R <sub>G</sub> =3 Ω		270		ns
Turn-On Rise Time	t <sub>r</sub>			320		
Turn-Off DelayTime	t <sub>d(off)</sub>			3		
Turn-Off Fall Time	t <sub>f</sub>			2.2		
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =7A, V <sub>GS</sub> =-9V, di/dt=100A/μs		30		nC
Body Diode Reverse Recovery Charge	Q <sub>rr</sub>			6.5		
Maximum Body-Diode Continuous Current	I <sub>S</sub>				2	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =1A, V <sub>GS</sub> =0V			1	V

#### ■ Marking

Marking	8810 KA***
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## Dual N-Channel MOSFET KI8810DY

### Typical Characteristics

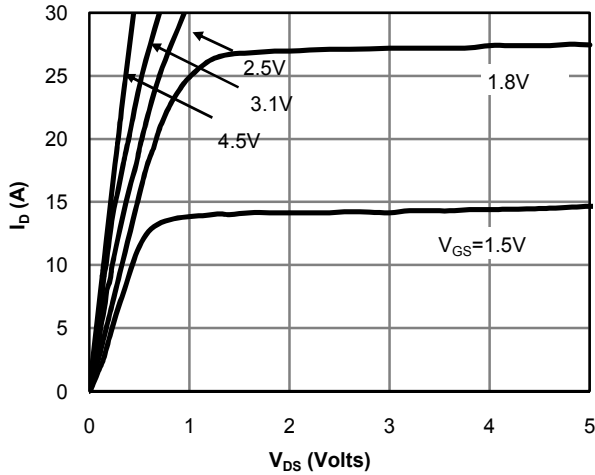


Fig 1: On-Region Characteristics

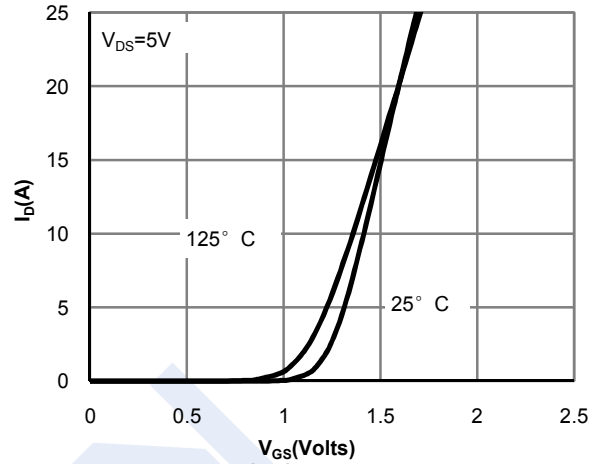


Figure 2: Transfer Characteristics

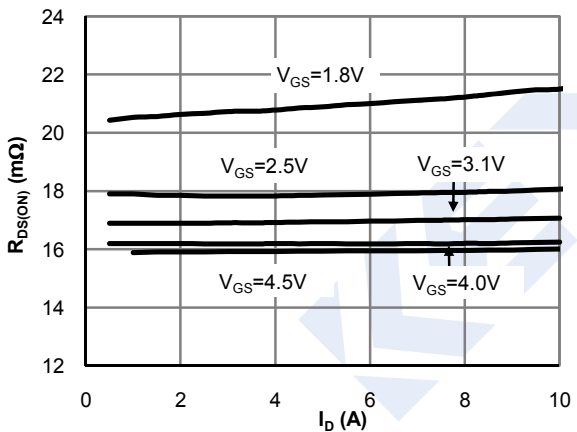


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

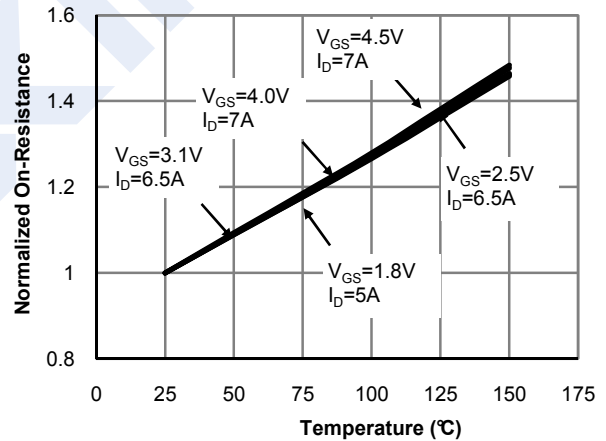


Figure 4: On-Resistance vs. Junction Temperature

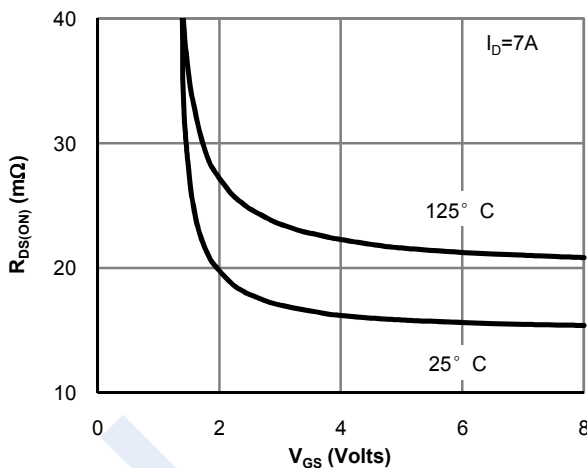


Figure 5: On-Resistance vs. Gate-Source Voltage

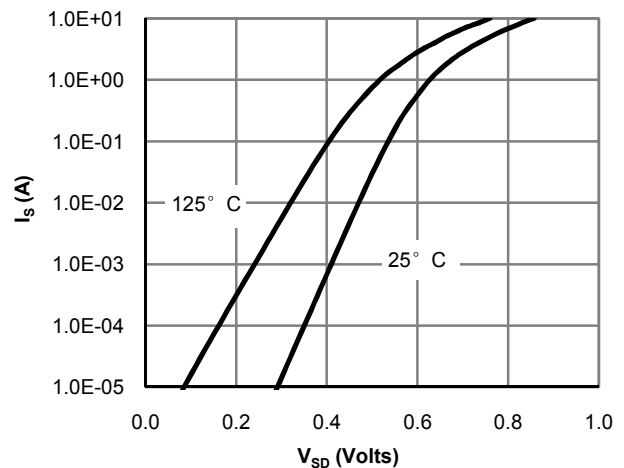


Figure 6: Body-Diode Characteristics

## Dual N-Channel MOSFET KI8810DY

■ Typical Characteristics

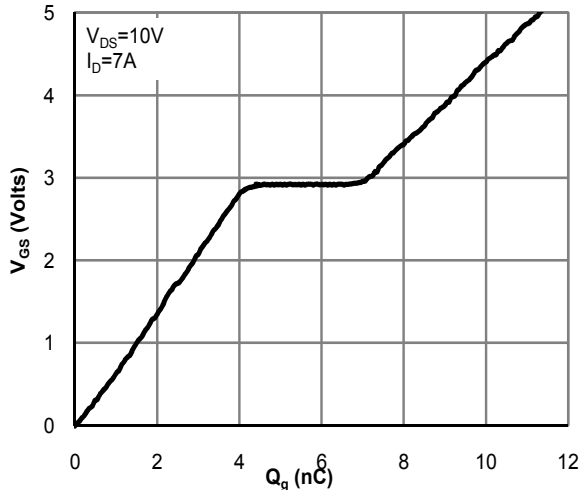


Figure 7: Gate-Charge Characteristics

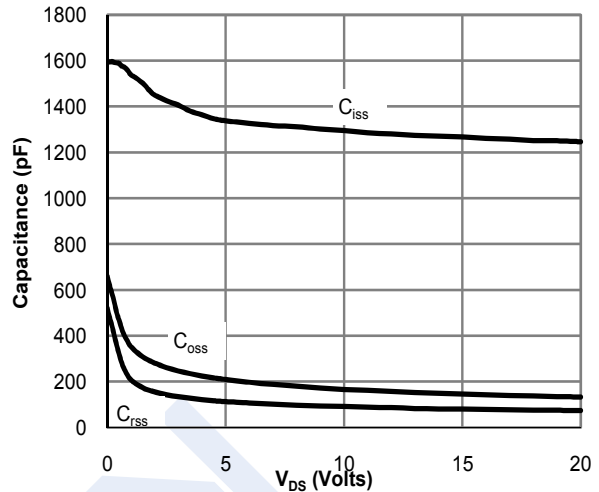


Figure 8: Capacitance Characteristics

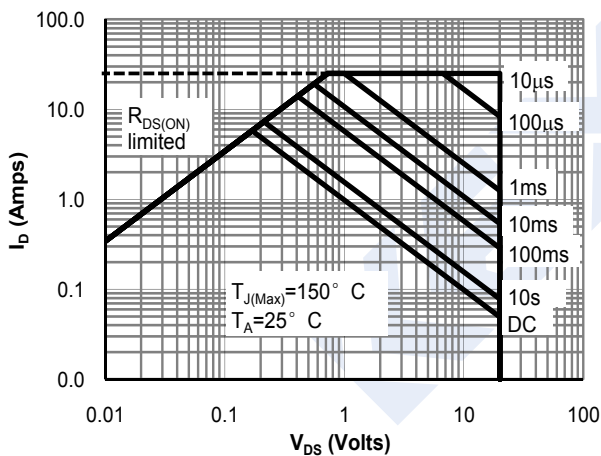


Figure 9: Maximum Forward Biased Safe Operating Area

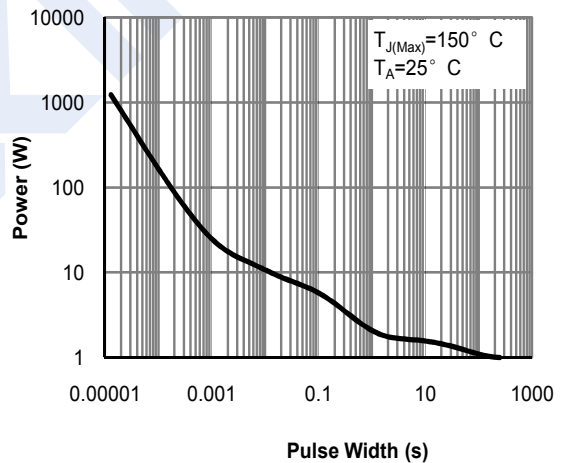


Figure 10: Single Pulse Power Rating Junction-to-Ambient

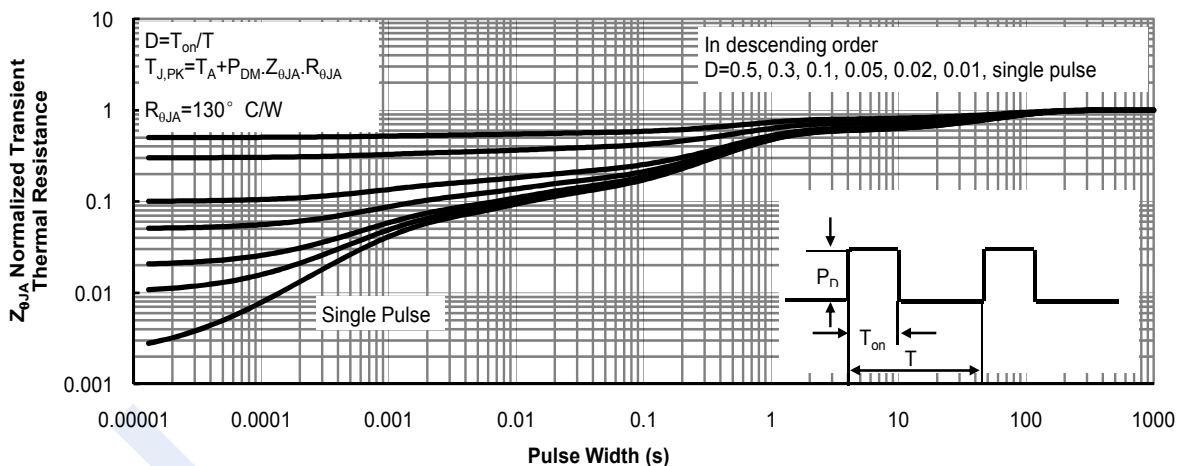


Figure 11: Normalized Maximum Transient Thermal Impedance