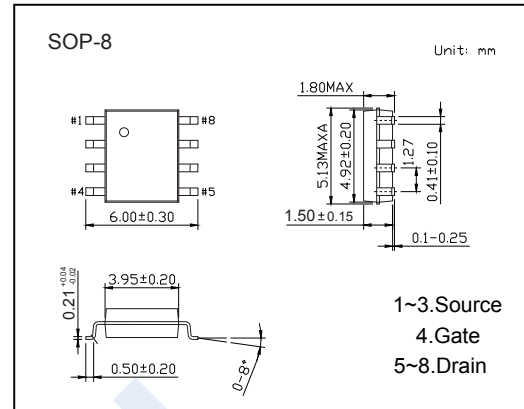
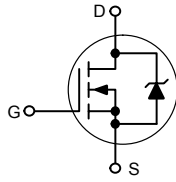


N-Channel MOSFET

KI3055DY

■ Features

- V_{DS} (V) = 60V
- I_D = 6 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 150m Ω (V_{GS} = 10V)



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	$T_A=25^\circ\text{C}$	6
		$T_A=70^\circ\text{C}$	3
Pulsed Drain Current ($t_p \leq 10$ ms)	I_{DM}	24	A
Power Dissipation $T_A=25^\circ\text{C}$	P_D	(Note.1)	2.1
		(Note.2)	1.5
Single Pulse Drain-to-Source Avalanche Energy – Starting $T_J = 25^\circ\text{C}$	E_{AS}	30	mJ
Thermal Resistance.Junction- to-Ambient (Note.1)	R_{thJA}	(Note.2)	71.4
			100
Thermal Resistance.Junction- to-Case	R_{thJC}	5.2	$^\circ\text{C}/\text{W}$
Maximum Lead Temperature for SolderingPurposes (Note.3)	T_L	260	$^\circ\text{C}$
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1 :When surface mounted to an FR4 board using 0.5 sq in pad size.

Note.2 :When surface mounted to an FR4 board using minimum recommended pad size

Note.3: 1/8, from case for 12 seconds

N-Channel MOSFET

KI3055DY

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μ A, V _{GS} =0V (Note.1)	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μ A
		V _{DS} =60V, V _{GS} =0V, T _J =150°C			10	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μ A	1		3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =4.5A (Note.1)			150	mΩ
Forward Transconductance	g _{FS}	V _{DS} =7V, I _D =4.5A (Note.1)		5		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1MHz		180	270	pF
Output Capacitance	C _{oss}			68	95	
Reverse Transfer Capacitance	C _{rss}			23	36	
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =48V, I _D =6A		6.8	13	nC
Gate Source Charge	Q _{gs}			1.5		
Gate Drain Charge	Q _{gd}			3.2		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =48V, I _D =6A, R _{GEN} =9.1Ω (Note.1)		10.2	23	ns
Turn-On Rise Time	t _r			36.5	78	
Turn-Off DelayTime	t _{d(off)}			11.3	24	
Turn-Off Fall Time	t _f			22	48	
Reverse Recovery Time	t _{rr}			27.5		
	t _a	I _S = 6A, di/dt= 100A/μ s (Note.1)		20.6		
	t _b			7.1		
Body Diode Reverse Recovery Charge	Q _{rr}			32		nC
Maximum Body-Diode Continuous Current	I _S	(Note.1)			6	A
Diode Forward Voltage	V _{SD}	I _S =6A, V _{GS} =0V		0.98	1.2	V

Note.1: Pulse Test: Pulse Width ≤ 300 us, Duty Cycle ≤ 2%.