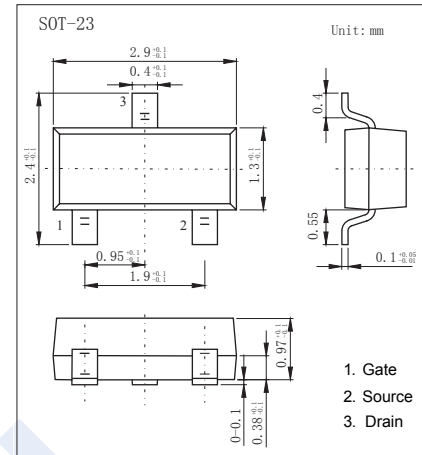
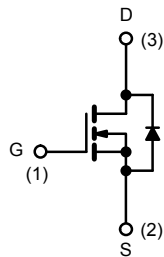


N-Channel MOSFET

SI2366DS (KI2366DS)

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 5.8 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 36m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 42m\Omega (V_{GS} = 4.5V)$



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ C$)	$T_c = 25^\circ C$	I_D	5.8	A
	$T_c = 70^\circ C$		4.7	
	$T_a = 25^\circ C$		4.5	
	$T_a = 70^\circ C$		3.6	
Pulsed Drain Current ($t = 300\mu s$)		I_{DM}	20	
Power Dissipation	$T_c = 25^\circ C$	P_D	2.1	W
	$T_c = 70^\circ C$		1.3	
	$T_a = 25^\circ C$		1.25	
	$T_a = 70^\circ C$		0.8	
Thermal Resistance.Junction- to-Ambient	$t \leq 5 s$	R_{thJA}	100	$^\circ C/W$
Thermal Resistance.Junction- to-Foot		R_{thJF}	60	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

N-Channel MOSFET

SI2366DS (KI2366DS)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
		V _{DS} =30V, V _{GS} =0V, T _J =55°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 μA	1.2		2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =4.5A			36	mΩ
		V _{GS} =4.5V, I _D =4.2A			42	
On State Drain Current	I _{D(ON)}	V _{GS} =10V, V _{DS} ≤5V	20			A
Forward Transconductance	g _{FS}	V _{DS} =15V, I _D =4.5A		13		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		335		pF
Output Capacitance	C _{oss}			78		
Reverse Transfer Capacitance	C _{rss}			30		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	0.7		7	Ω
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =4.5A		6.4	10	nC
		V _{GS} =4.5V, V _{DS} =15V, I _D =4.5A		3.2	5	
Gate Source Charge	Q _{gs}	V _{GS} =4.5V, V _{DS} =15V, I _D =4.5A		1.1		
Gate Drain Charge	Q _{gd}			1.3		
Turn-On DelayTime	t _{d(on)}	V _{DD} =15V, R _L =4.2Ω I _D =3.5A, V _{GEN} =4.5V, R _g =1Ω		32	48	ns
Turn-On Rise Time	t _r			48	71	
Turn-Off DelayTime	t _{d(off)}			18	27	
Turn-Off Fall Time	t _f			20	30	
Turn-On DelayTime	t _{d(on)}	V _{DD} =15V, R _L =4.2Ω I _D =3.6A, V _{GEN} =10V, R _g =1Ω		5	10	ns
Turn-On Rise Time	t _r			12	20	
Turn-Off DelayTime	t _{d(off)}			14	21	
Turn-Off Fall Time	t _f			8	16	
Body Diode Reverse Recovery Time	t _{rr}	I _F =3.6A, di/dt=100A/μs, T _J =25°C		12	18	nC
Body Diode Reverse Recovery Charge	Q _{rr}			5	10	
Reverse Recovery Fall Time	t _a			7		
Reverse Recovery Rise Time	t _b			5		
Maximum Body-Diode Continuous Current	I _S	T _c =25°C			1.75	A
Pulse Diode Forward Current	I _{SM}				20	
Diode Forward Voltage	V _{SD}	I _S =3.6A, V _{GS} =0V			1.2	V

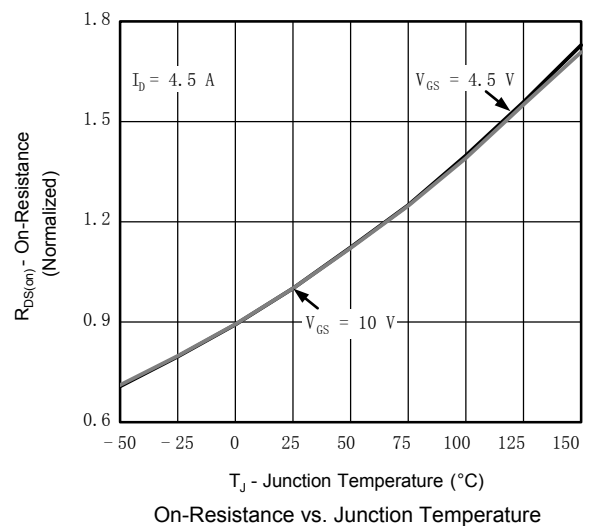
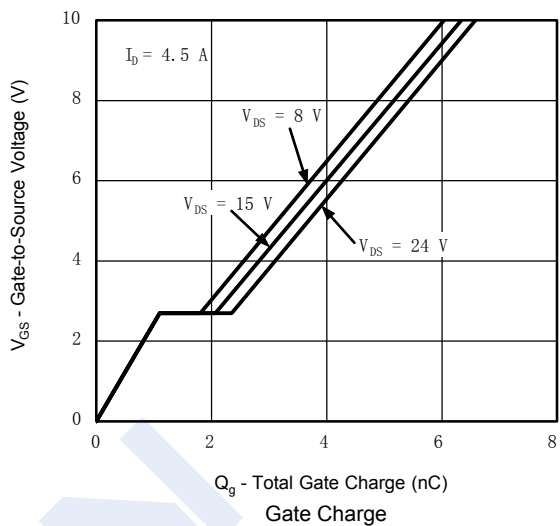
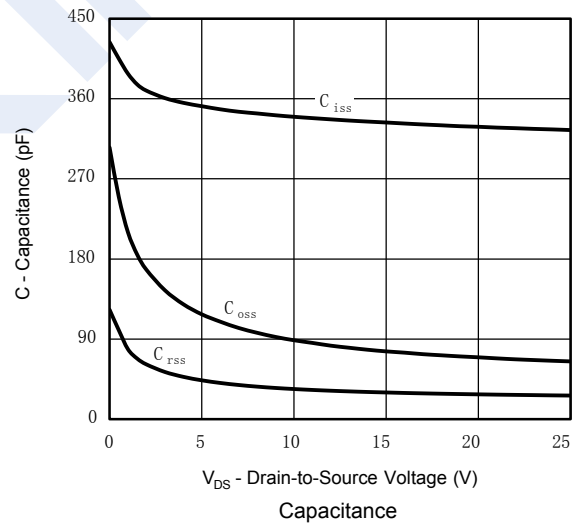
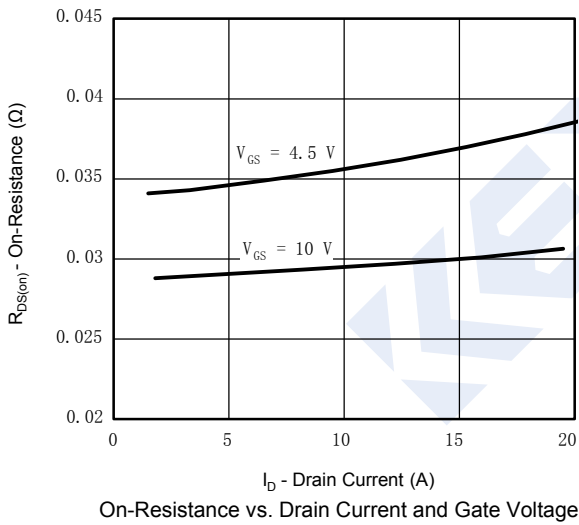
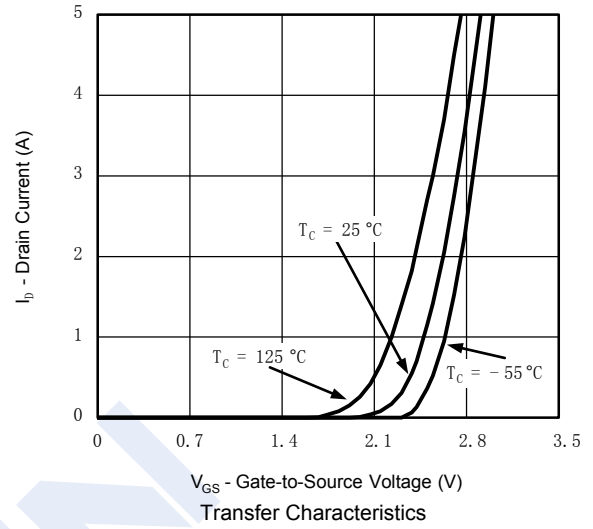
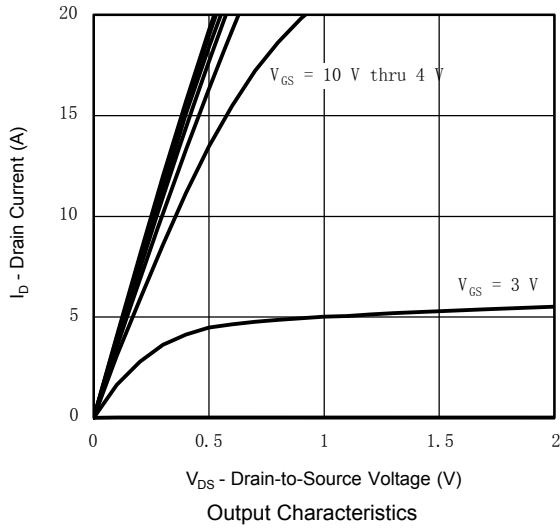
Note. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2 %.

■ Marking

Marking	H6*
---------	-----

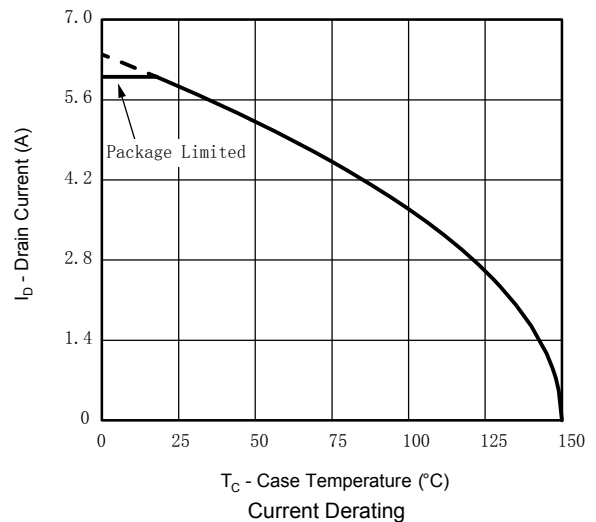
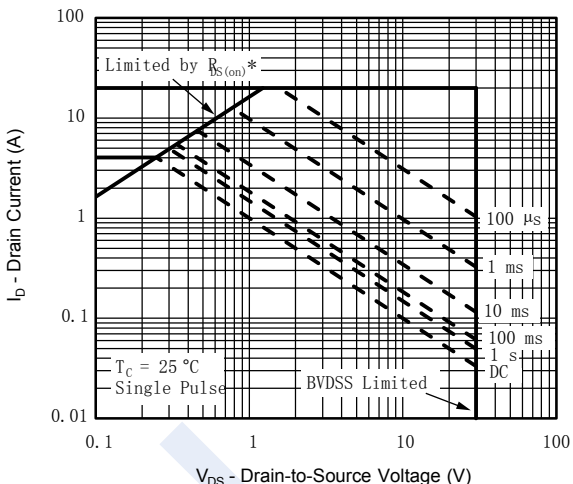
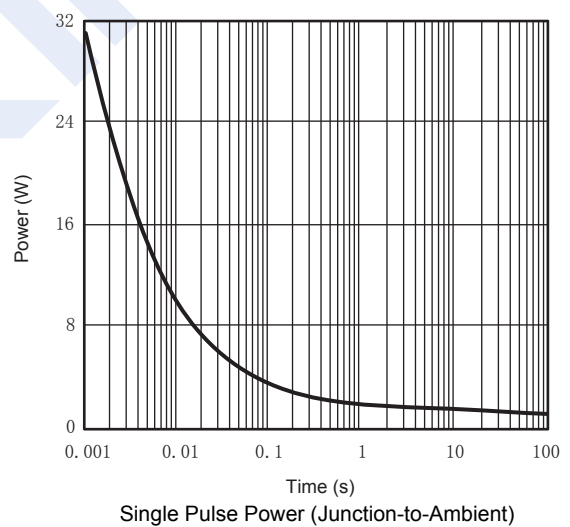
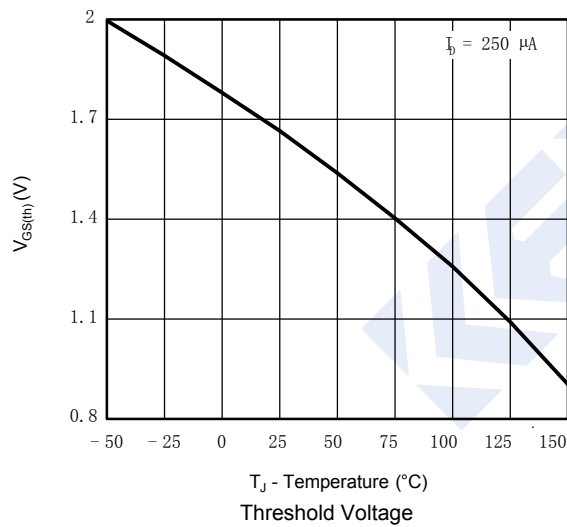
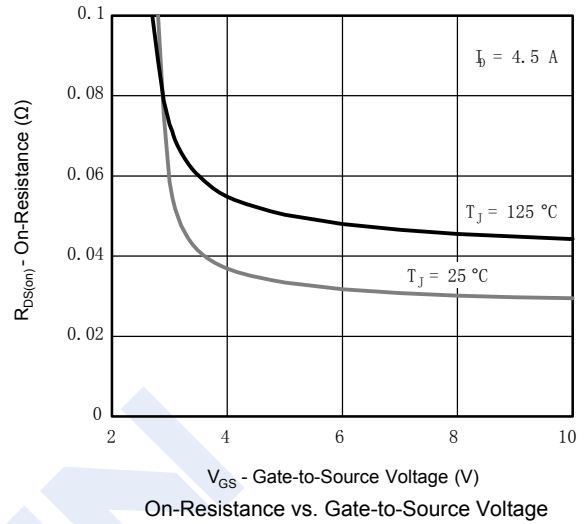
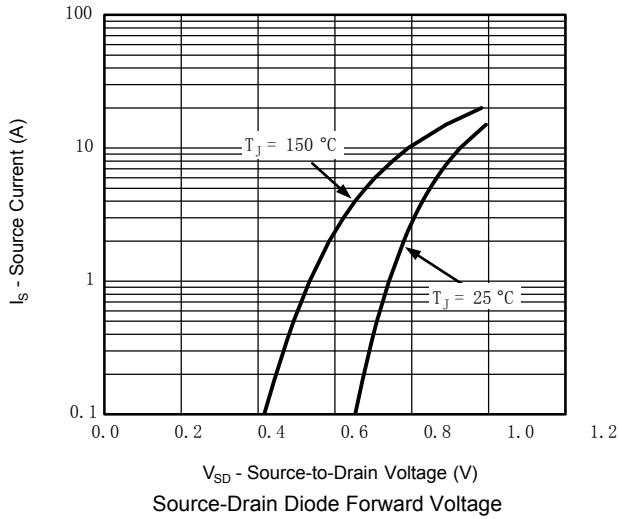
N-Channel MOSFET SI2366DS (KI2366DS)

Typical Characteristics



N-Channel MOSFET SI2366DS (KI2366DS)

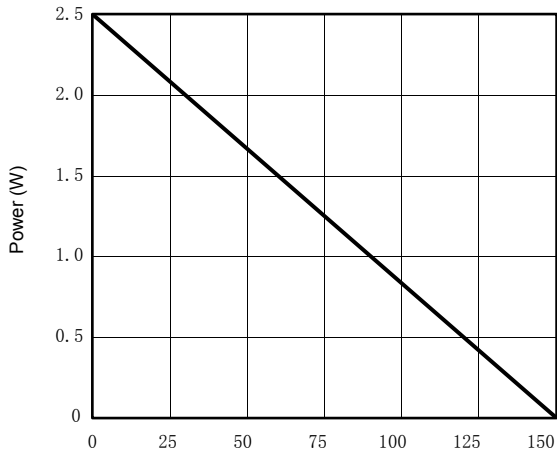
Typical Characteristics



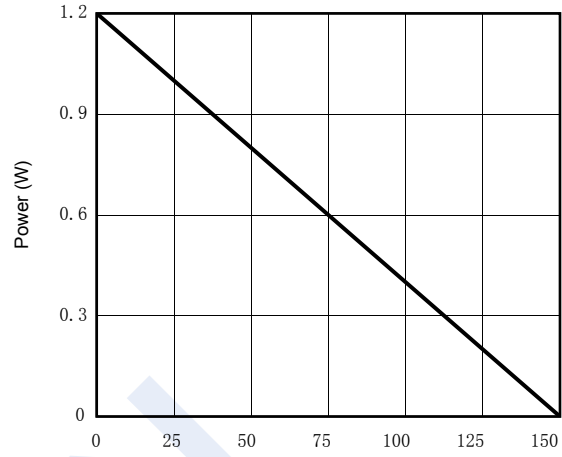
* $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified

N-Channel MOSFET SI2366DS (KI2366DS)

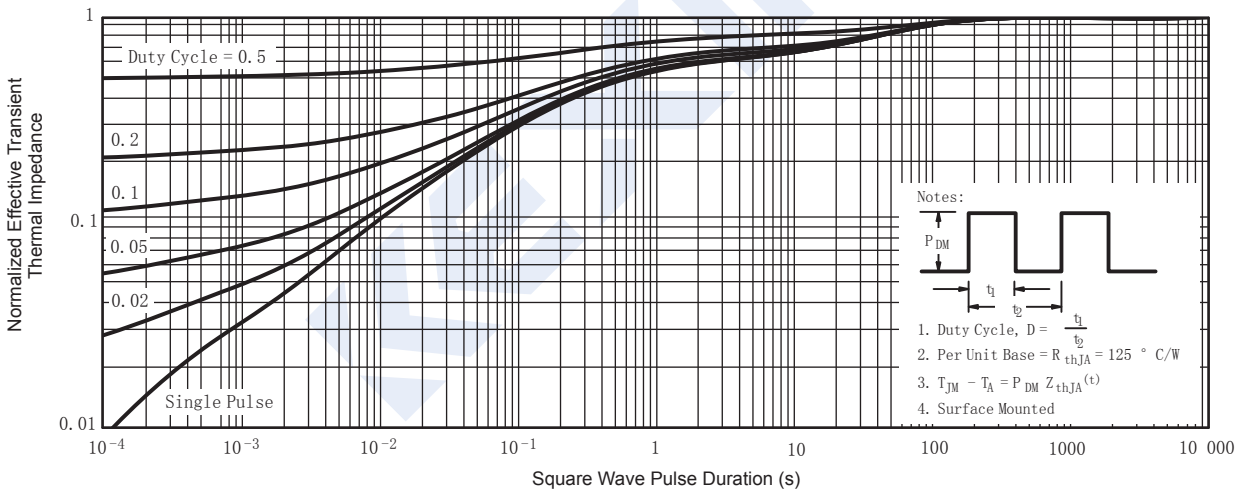
■ Typical Characteristics



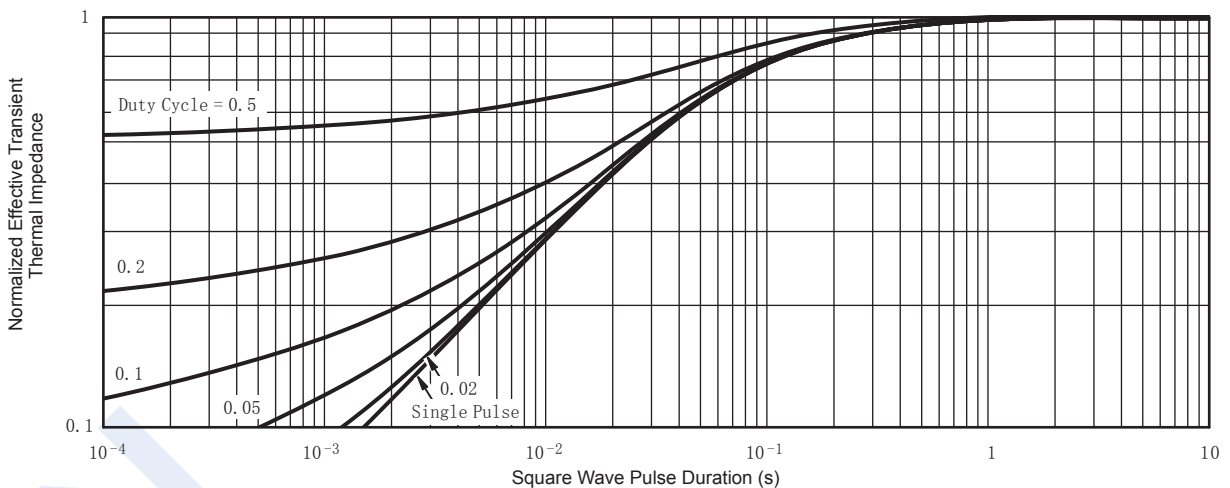
Power Derating, Junction-to-Foot



Power Derating, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot