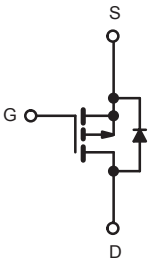
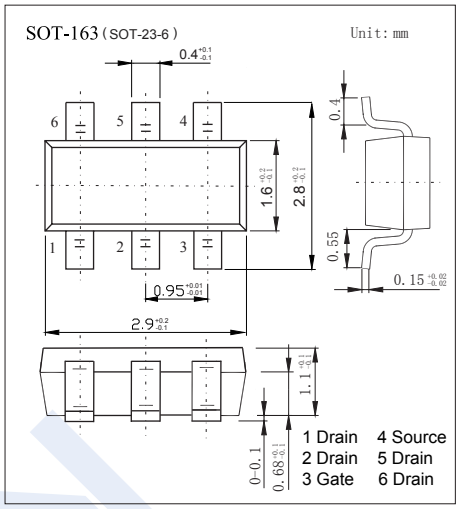
P-Channel MOSFET

SI3475DV (KI3475DV)

■ Features

- V_{DS} (V) =-200V
- I_D =-0.95 A (V_{GS} =-10V)
- $R_{DS(ON)}$ < 1.61Ω (V_{GS} =-10V)
- $R_{DS(ON)}$ < 1.65Ω (V_{GS} =-6V)





■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-200	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current (T_J = 150 °C)	Tc = 25℃	I_D	-0.95	A
	Tc = 70℃		-0.77	
(Note.1,2)	Ta = 25℃		-0.75	
(Note.1,2)	Ta = 70℃		-0.59	
Pulsed Drain Current		I_{DM}	-3	
Avalanche Current	L = 0.1 mH	I_{AS}	3	
Single-Pulse Avalanche Energy		E_{AS}	0.45	mJ
Power Dissipation	Tc = 25℃	P_D	3.2	W
	Tc = 70℃		2.1	
(Note.1,2)	Ta = 25℃		2	
(Note.1,2)	Ta = 70℃		1.25	
Thermal Resistance.Junction- to-Ambient	t ≤ 5 sec	R_{thJA}	62.5	℃/W
Thermal Resistance.Junction- to-Foot	Steady State	R_{thJF}	39	
Junction Temperature		T_J	150	℃
Junction Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: Surface Mounted on 1" x 1" FR4 board.

Note.2: t = 5 sec.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-200			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-200V, V_{GS}=0V			-1	μA
		V_{DS}=-200V, V_{GS}=0V, T_J=55℃			-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=-250μA	-2		-4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-0.9A			1.61	Ω
		V_{GS}=-6V, I_D=-0.7A			1.65	
On state drain current	$I_{D(ON)}$	V_{GS}=-10V, V_{DS}≥-10V	-2			A
Forward Transconductance	g_{FS}	V_{DS}=-10V, I_D=-0.9A		3.5		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-50V, f=1MHz		500		pF
Output Capacitance	C_{oss}			26		
Reverse Transfer Capacitance	C_{rss}			18		
Gate resistance	R_g	f=1MHz		9	14	Ω
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-100V, I_D=-1A		11.7	18	nC
		V_{GS}=-6V, V_{DS}=-100V, I_D=-1A		7.8	12	
Gate Source Charge	Q_{gs}			2		
Gate Drain Charge	Q_{gd}			3.7		
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = - 100 V, R_L = 100 Ω I_D ≅ - 1 A, V_{GEN} = - 10 V, R_g = 1 Ω		9	14	ns
Turn-On Rise Time	t_r			11	18	
Turn-Off DelayTime	$t_{d(off)}$			28	42	
Turn-Off Fall Time	t_f			12	18	
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = - 100 V, R_L = 100 Ω I_D ≅ - 1 A, V_{GEN} = - 6 V, R_g = 1 Ω		14	21	
Turn-On Rise Time	t_r			29	44	
Turn-Off DelayTime	$t_{d(off)}$			23	35	
Turn-Off Fall Time	t_f			14	21	
Body Diode Reverse Recovery Time	t_{rr}	I_F=-1.2A, dI/dt=100A/μs,T_J = 25℃		84	130	
Body Diode Reverse Recovery Charge	Q_{rr}			235	350	nC
Reverse Recovery Fall Time	t_a			46		nS
Reverse Recovery Rise Time	t_b			38		
Maximum Body-Diode Continuous Current	I_S	T_C = 25 °C			-0.95	A
Pulse Diode Forward Current	I_{SM}				-3	
Diode Forward Voltage	V_{SD}	I_S=-1A,V_{GS}=0V			-1.2	V

■ Marking

Marking	AI***

P-Channel MOSFET

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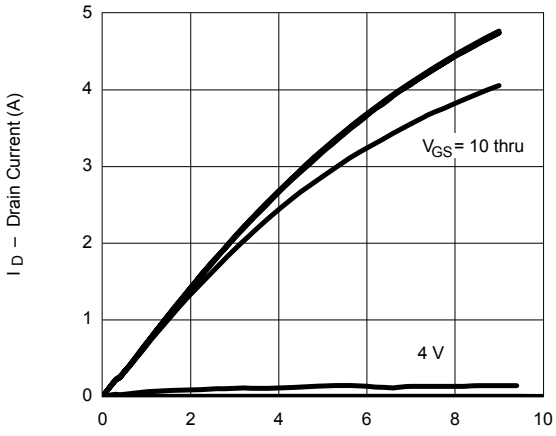
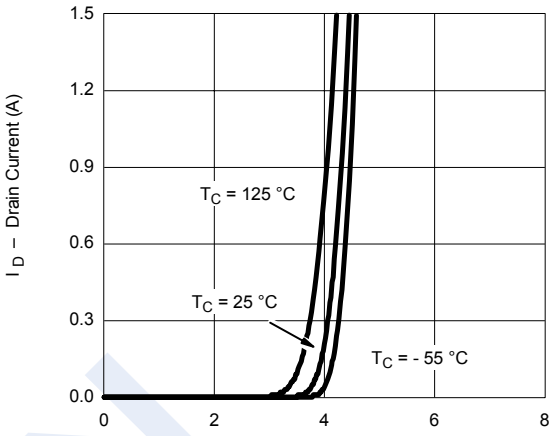
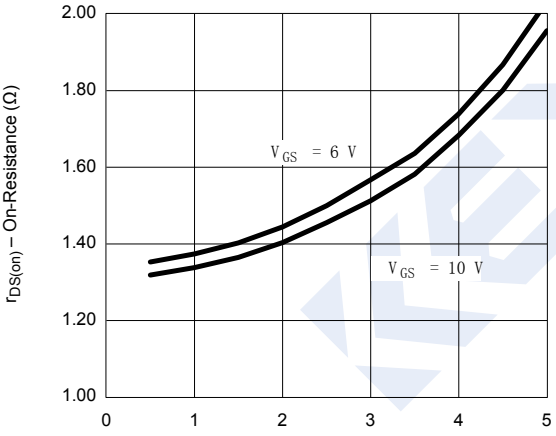
■ Typical Characterisitics



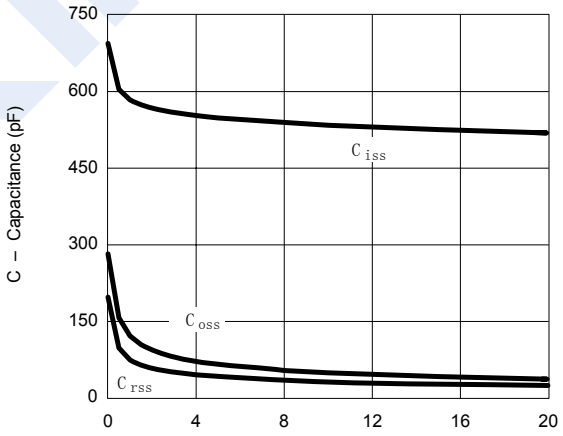
Output Characteristics



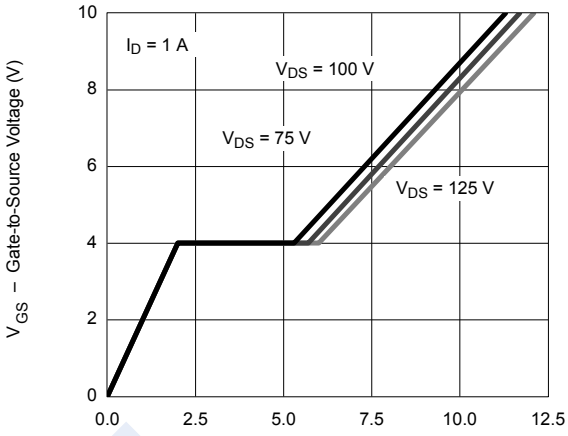
Transfer Characteristics



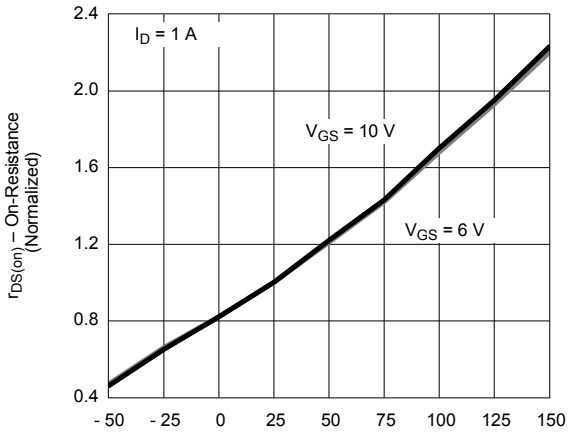
On-Resistance vs. Drain Current



Capacitance



Gate Charge

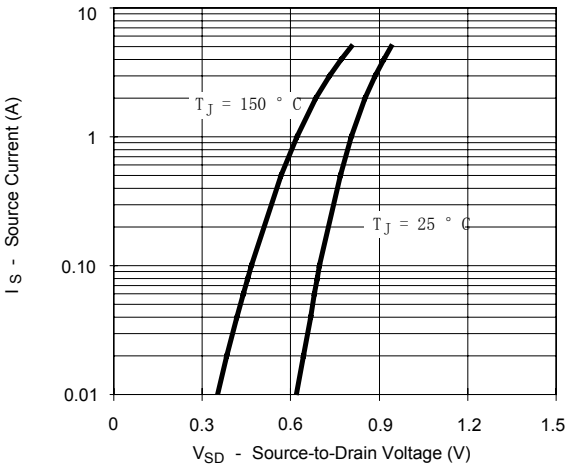


On-Resistance vs. Junction Temperature

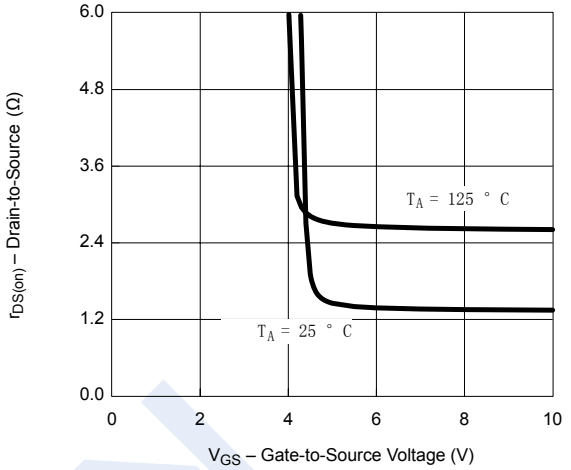
P-Channel MOSFET

SI3475DV (KI3475DV)

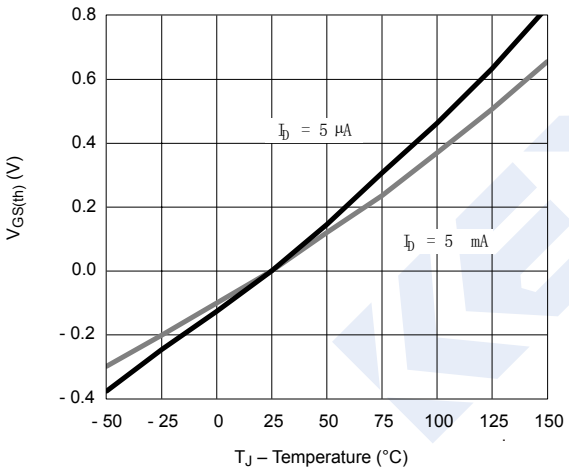
■ Typical Characterisitics



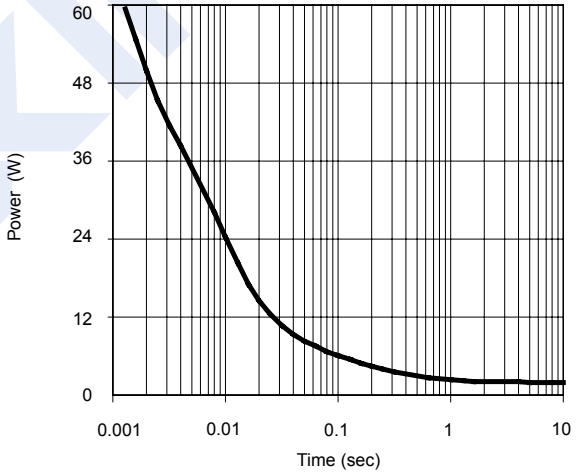
Source-Drain Diode Forward Voltage



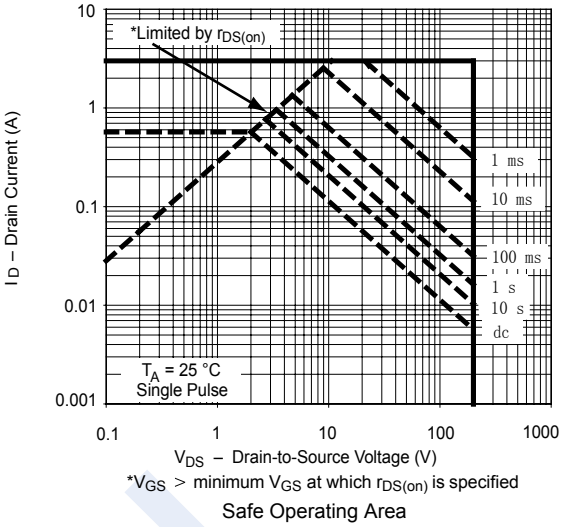
On-Resistance vs. Gate-to-Source Voltage



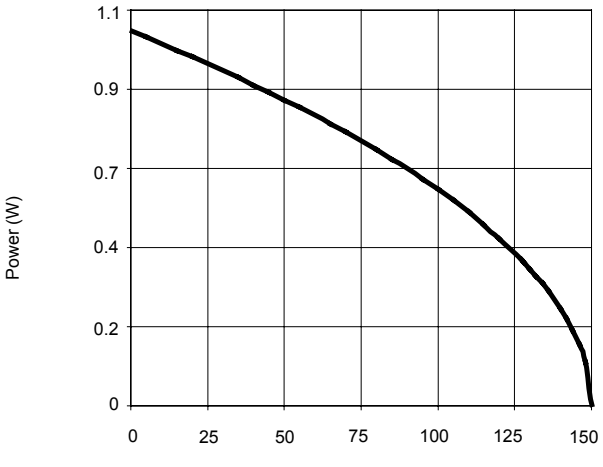
Threshold Voltage



Single Pulse Power, Junction-to-Ambient



Safe Operating Area

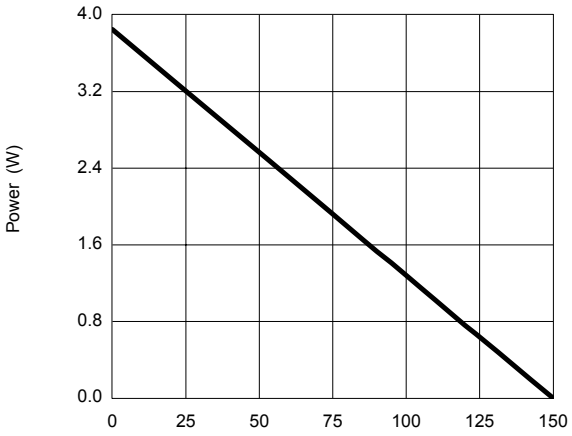


Current Derating*

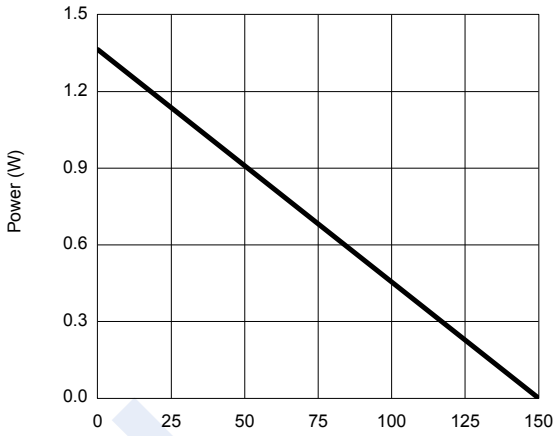
P-Channel MOSFET

SI3475DV (KI3475DV)

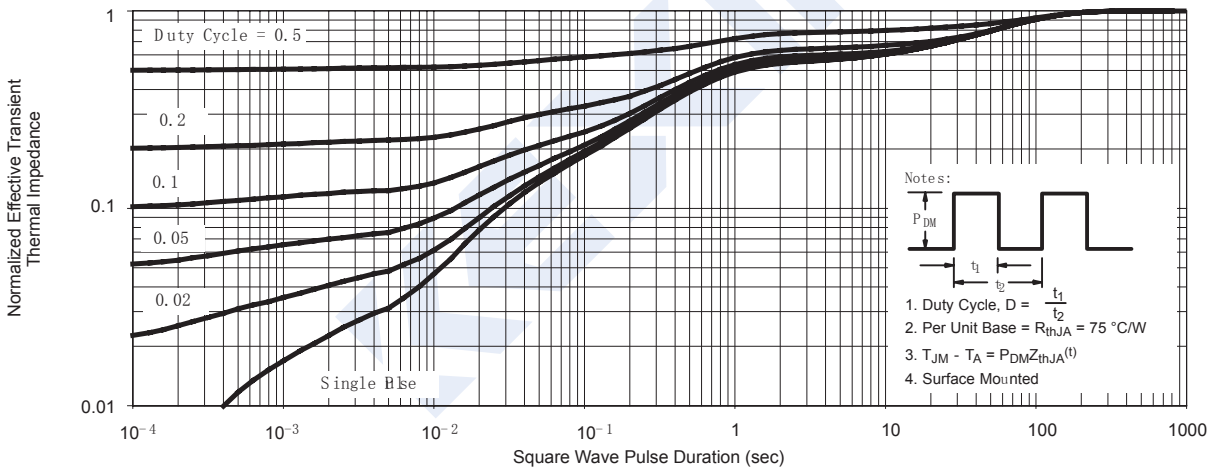
■ Typical Characterisitics



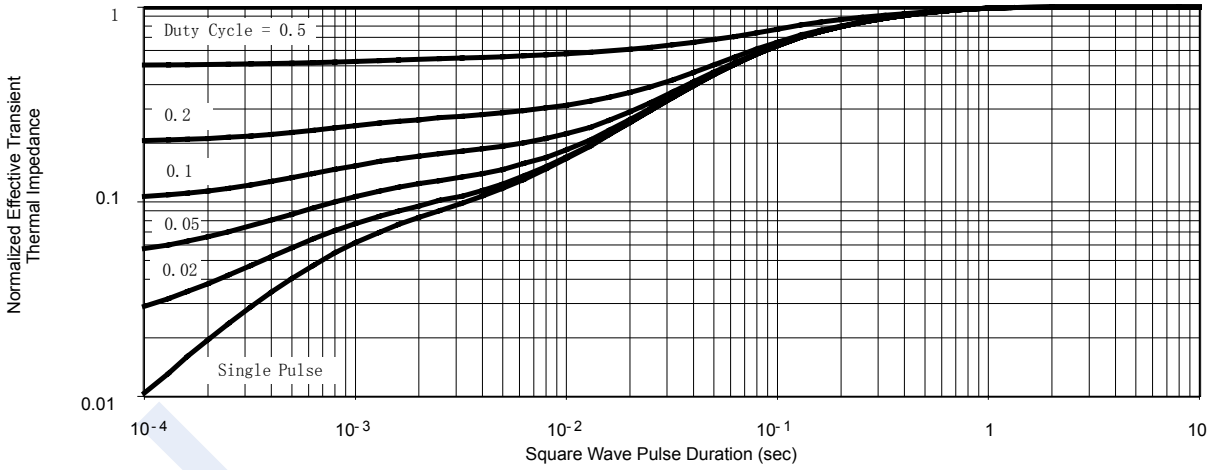
Power, Junction-to-Foot



Power Derating, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot