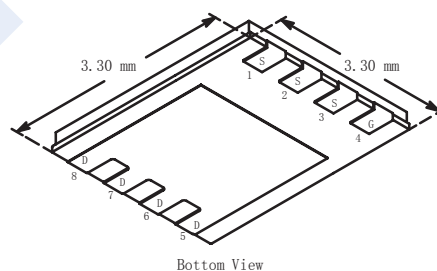
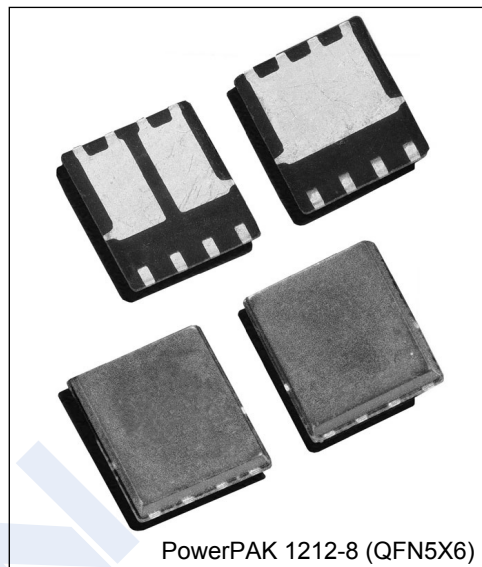
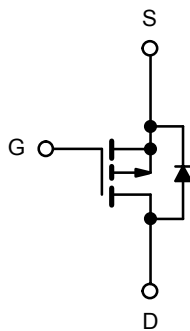


P-Channel MOSFET

SI7119DN (KI7119DN)

■ Features

- $V_{DS} (V) \approx -200V$
- $I_D \approx -3.8 A$ ($V_{GS} \approx -10V$)
- $R_{DS(ON)} < 1.05 \Omega$ ($V_{GS} \approx -10V$)
- $R_{DS(ON)} < 1.1 \Omega$ ($V_{GS} \approx -6V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-200	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_C = 25^\circ C$	I_D	-3.8	A
	$T_C = 70^\circ C$		-3	
	$T_a = 25^\circ C$		-1.2	
	$T_a = 70^\circ C$		-0.95	
Pulsed Drain Current		I_{DM}	-5	mJ
Avalanche Current	$L = 0.1 \text{ mH}$	I_{AS}	5	
Single-Pulse Avalanche Energy		E_{AS}	1.25	
Power Dissipation	$T_C = 25^\circ C$	P_D	52	W
	$T_C = 70^\circ C$		33	
	$T_a = 25^\circ C$		3.7	
	$T_a = 70^\circ C$		2.4	
Thermal Resistance.Junction- to-Ambient	$t \leq 10 \text{ s}$	R_{thJA}	35	$^\circ C/W$
Thermal Resistance.Junction- to-Case	Steady State	R_{thJC}	3.8	
Junction Temperature		T_J	150	$^\circ C$
Junction Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

SI7119DN (KI7119DN)

■ Electrical Characteristics Ta = 25°C

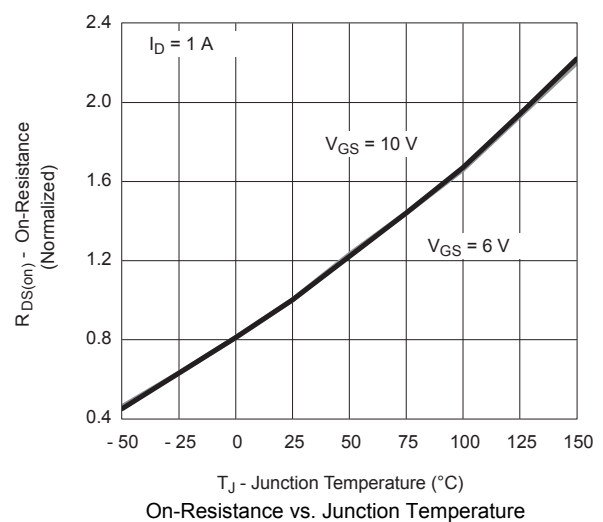
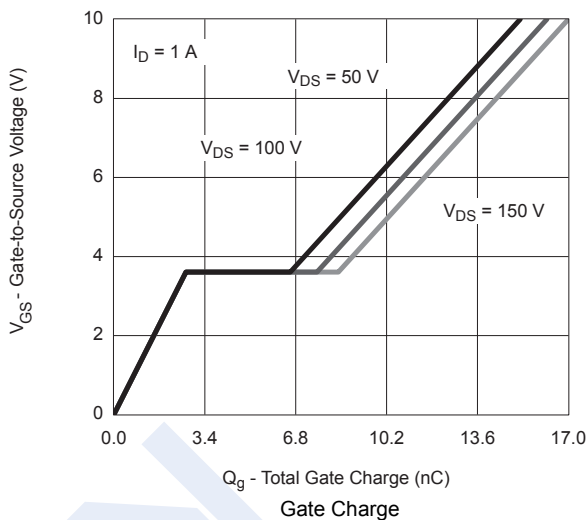
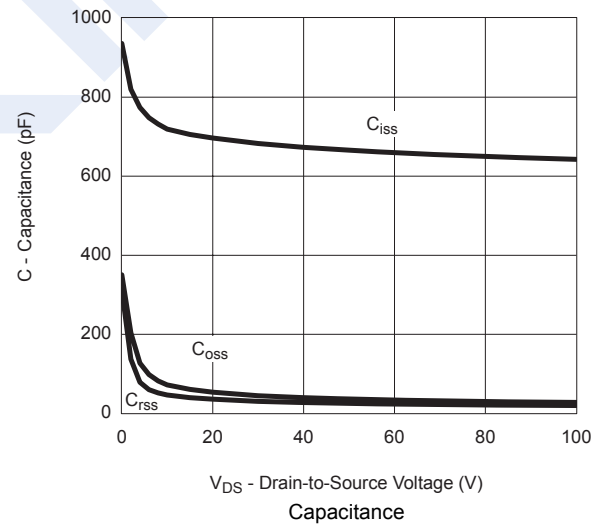
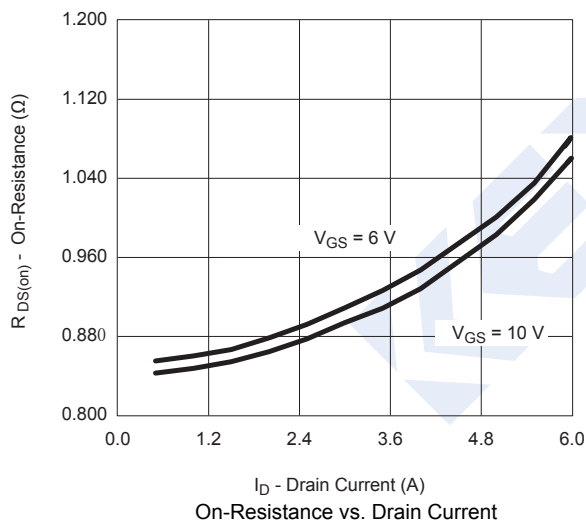
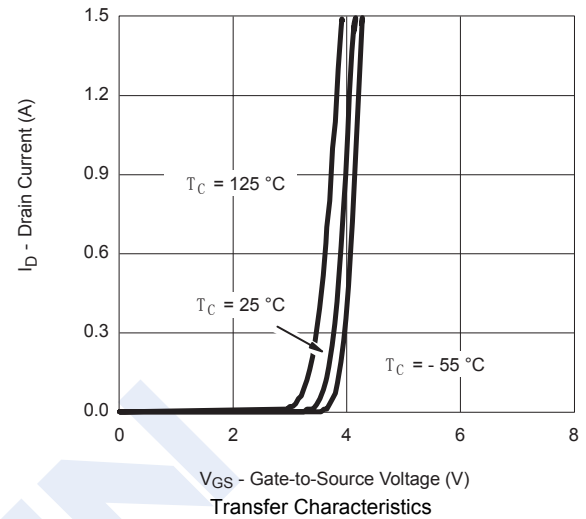
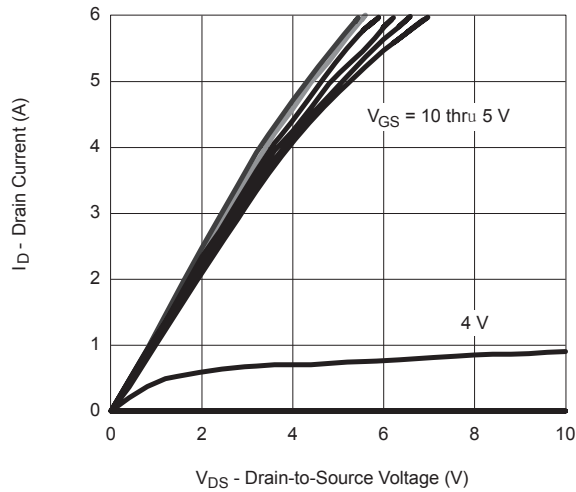
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-200			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-200V, V _{GS} =0V			-1	μA
		V _{DS} =-200V, V _{GS} =0V, T _J =55°C			-10	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-2		-4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-1A			1.05	Ω
		V _{GS} =-6V, I _D =-1A			1.1	
On state drain current	I _{D(on)}	V _{GS} =-10V, V _{DS} =-10V	-3			A
Forward Transconductance	g _{FS}	V _{DS} =-15V, I _D =-1A		4		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-50V, f=1MHz		666		pF
Output Capacitance	C _{oss}			36		
Reverse Transfer Capacitance	C _{rss}			25		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		5.3	8	Ω
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-100V, I _D =-1A		16.2	25	nC
		V _{GS} =-6V, V _{DS} =-100V, I _D =-1A		10.6	16	
Gate Source Charge	Q _{gs}	V _{GS} =-6V, V _{DS} =-100V, I _D =-1A		2.5		
Gate Drain Charge	Q _{gd}			4.9		
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		16	25	ns
Turn-On Rise Time	t _r			16	25	
Turn-Off DelayTime	t _{d(off)}			25	40	
Turn-Off Fall Time	t _f			16	25	
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	15	
Turn-On Rise Time	t _r			11	18	
Turn-Off DelayTime	t _{d(off)}			27	42	
Turn-Off Fall Time	t _f			12	20	
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4A, dI/dt=100A/μs, T _J =25°C		66	90	nC
Body Diode Reverse Recovery Charge	Q _{rr}			215	270	
Reverse Recovery Fall Time	t _a			48		ns
Reverse Recovery Rise Time	t _b			18		
Maximum Body-Diode Continuous Current	I _S	T _C =25°C			-5	A
Pulse Diode Forward Current	I _{SM}				-5	
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1.2	V

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

P-Channel MOSFET

SI7119DN (KI7119DN)

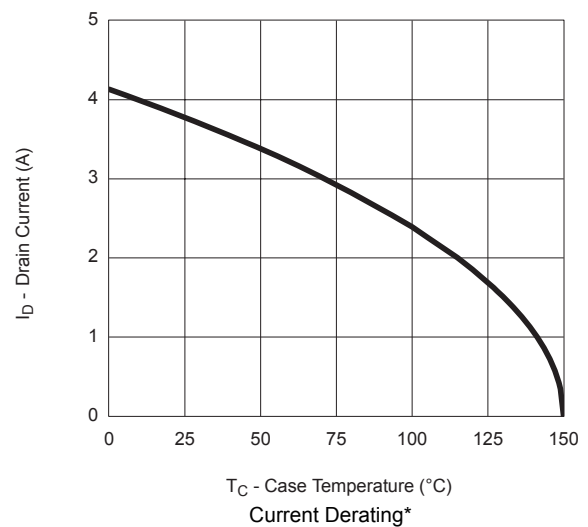
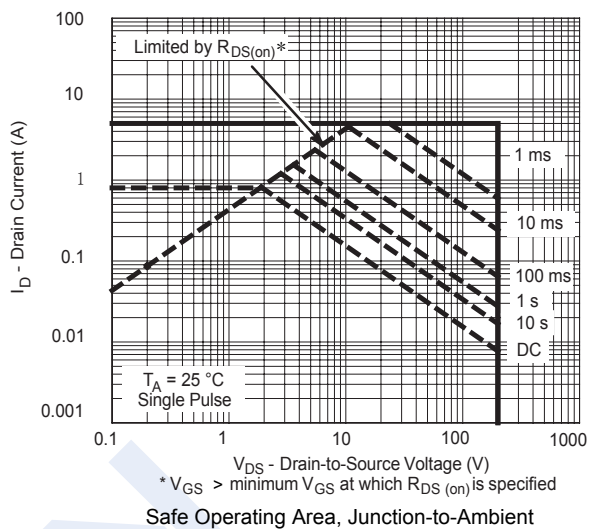
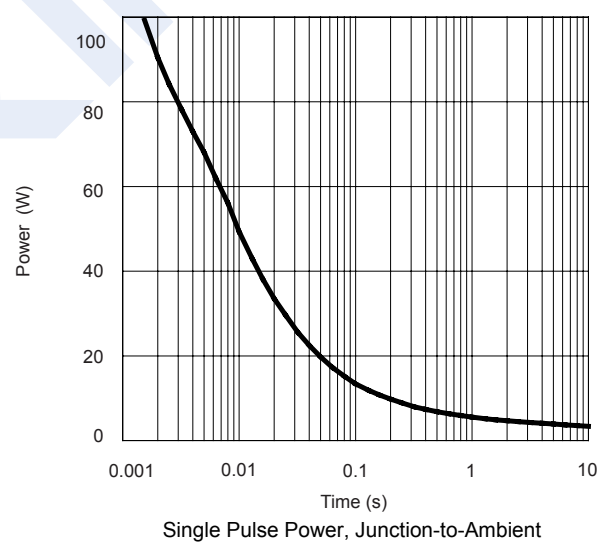
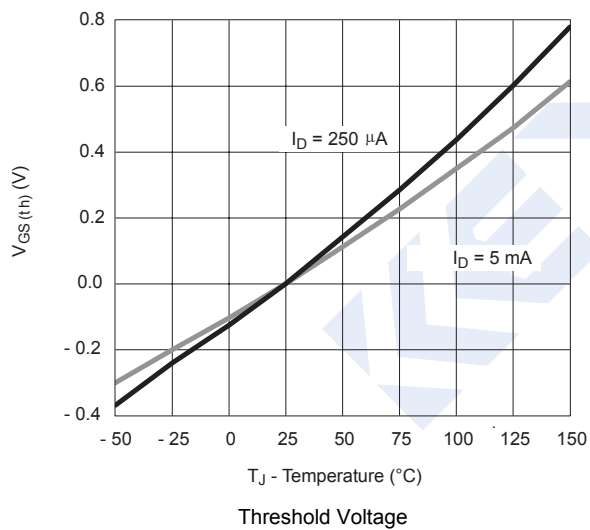
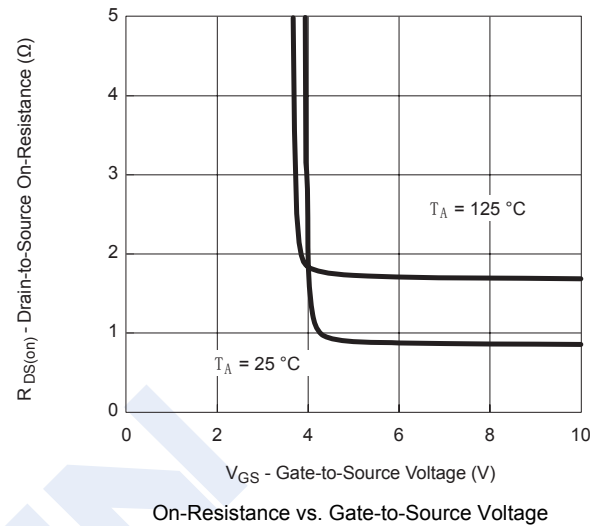
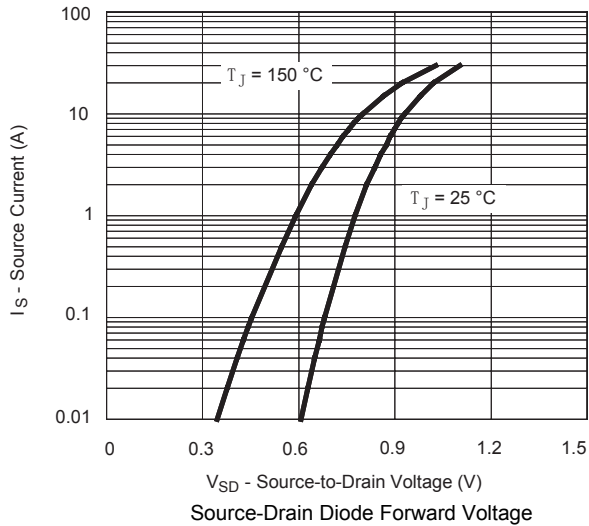
■ Typical Characteristics



P-Channel MOSFET

SI7119DN (KI7119DN)

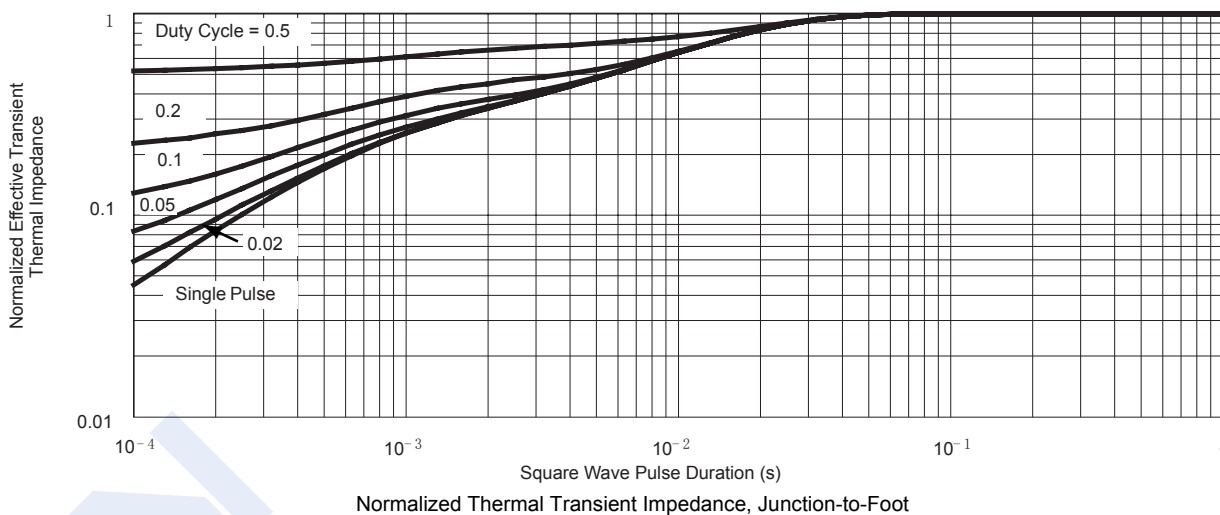
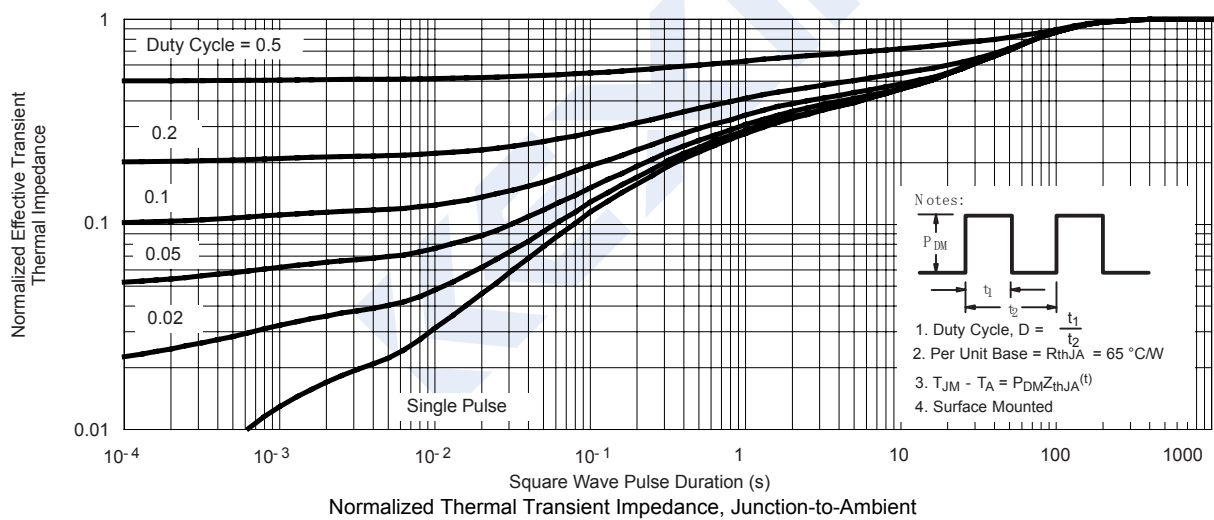
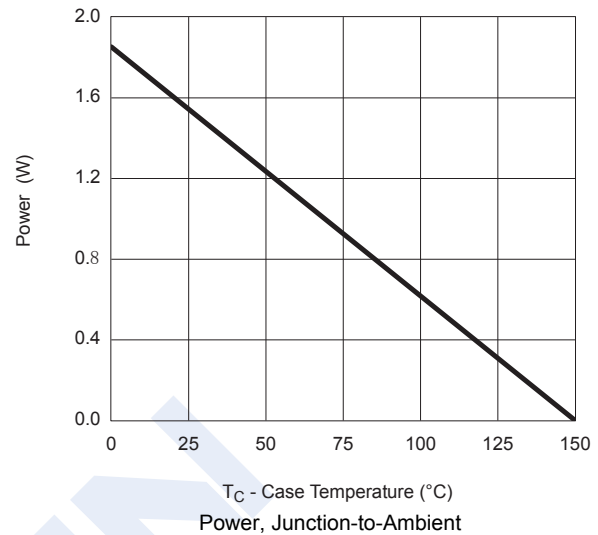
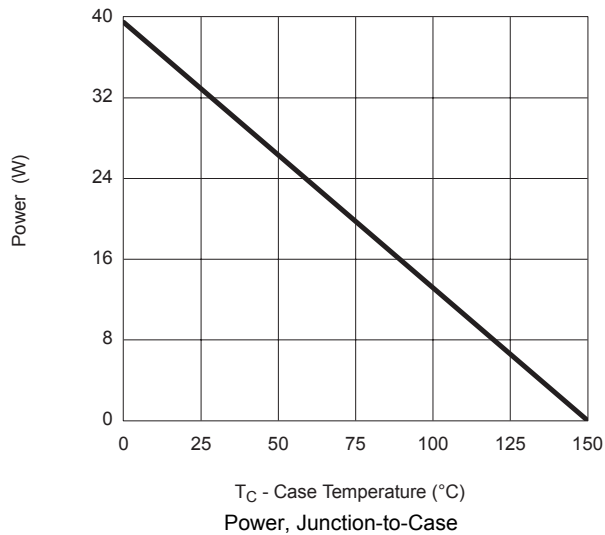
■ Typical Characteristics



P-Channel MOSFET

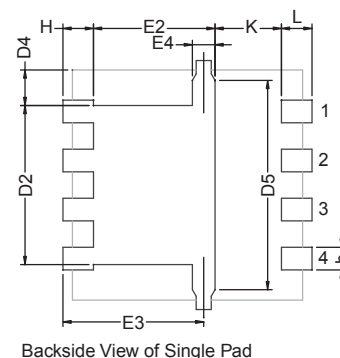
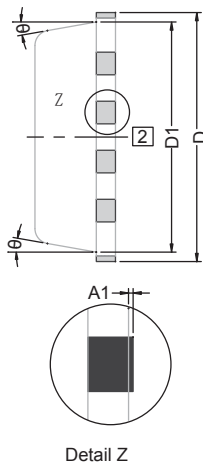
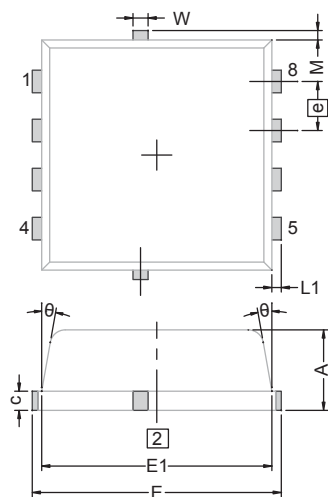
SI7119DN (KI7119DN)

■ Typical Characteristics

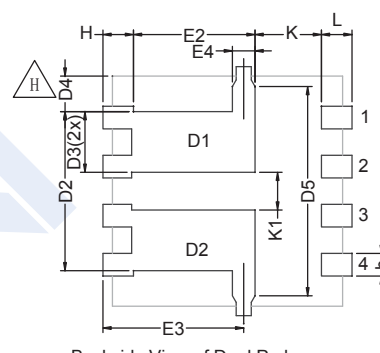


Dimensional Outline and Pad Lay-out

PowerPAK 1212-8 (QFN5X6)



Backside View of Single Pad



Backside View of Dual Pad

Notes:

1. Inch will govern
2. Dimensions exclusive of mold gate burrs
3. Dimensions exclusive of mold flash and cutting burrs

DIM.	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.79	1.12	0.031	0.044
A1	0	0.05	0	0.002
b	0.23	0.41	0.009	0.016
c	0.13	0.33	0.005	0.013
D	3.00	3.61	0.118	0.142
D1	2.95	3.21	0.116	0.126
D2	1.98	2.70	0.078	0.106
D4	0.31 TYP.		0.012 TYP.	
E	3.00	3.61	0.118	0.142
E1	2.95	3.21	0.116	0.126
E2	1.47	2.21	0.058	0.087
E3	1.75	1.98	0.069	0.078
E4	0.535 TYP.		0.021 TYP.	
e	0.65 BSC		0.026 BSC	
K	0.61		0.024	
K1	0.35		0.014	
H	0.15	0.51	0.006	0.020
L	0.15	0.56	0.006	0.022
L1	0.051	0.204	0.002	0.008
theta	0°	12°	0°	12°
W	0.15	0.36	0.006	0.014
M	0.125 TYP.		0.005 TYP.	