

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100V	210mΩ@10V	2.5A

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-100V	240mΩ@-10V	-3A

Feature

- Trench FET Power MOSFET
- Excellent Rds(on) and Low Gate Charge
- Fast Switching Speed

Application

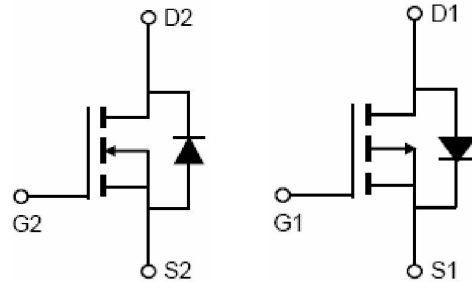
- Motor Control
- DC/DC Converters
- Power Management

Package

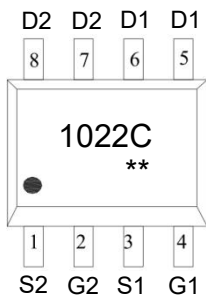


SOP-8

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	N-Channel	p-Channel	Unit
Drain-Source Voltage	V_{DS}	100	-100	V
Gate-Source Voltage	V_{GS}	± 20	± 20	V
Continuous Drain Current	I_D	2.5	-3	A
Power Dissipation	P_D	2	2	W
Thermal Resistance, Junction-to-Ambient ¹⁾	$R_{\theta JA}$	62.5	62.5	°C/W
Junction Temperature	T_J	150	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	-55 ~ +150	°C

N-CH Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0		2.5	V
Drain-source on-resistance ²⁾	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 2A$		160	210	m Ω
Dynamic characteristics³⁾						
Input Capacitance	C_{iss}	$V_{DS} = 50V, V_{GS} = 0V, f = 1MHz$		498		pF
Output Capacitance	C_{oss}			30		
Reverse Transfer Capacitance	C_{rss}			19		
Total Gate Charge	Q_g	$V_{DS} = 50V, V_{GS} = 10V, I_D = 1.6A$		9.3		nC
Gate-Source Charge	Q_{gs}			1.8		
Gate-Drain Charge	Q_{gd}			2.5		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 50V, V_{GS} = 10V, I_D = 1A$ $R_{GEN} = 6\Omega$		3		nS
Turn-on rise time	t_r			2		
Turn-off delay time	$t_{d(off)}$			12		
Turn-off fall time	t_f			6		
Source-Drain Diode characteristics						
Diode Forward Current	I_S				2.5	A
Diode Forward voltage	V_{DS}	$V_{GS} = 0V, I_S = 1A$			1.2	V

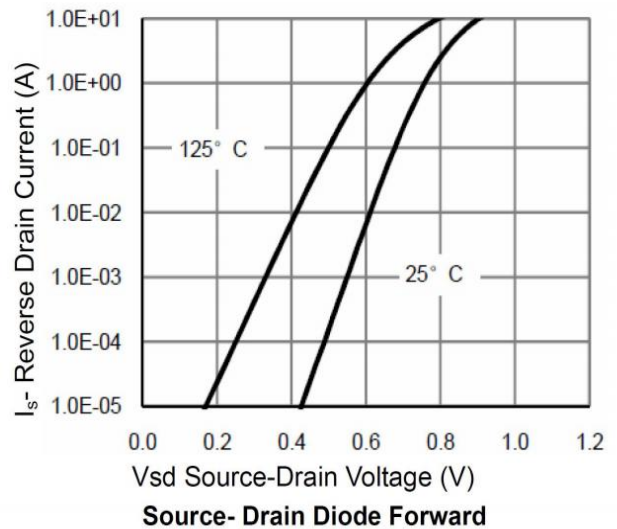
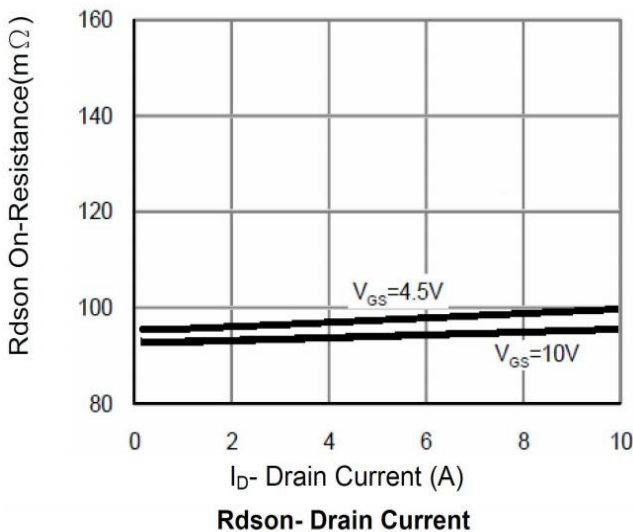
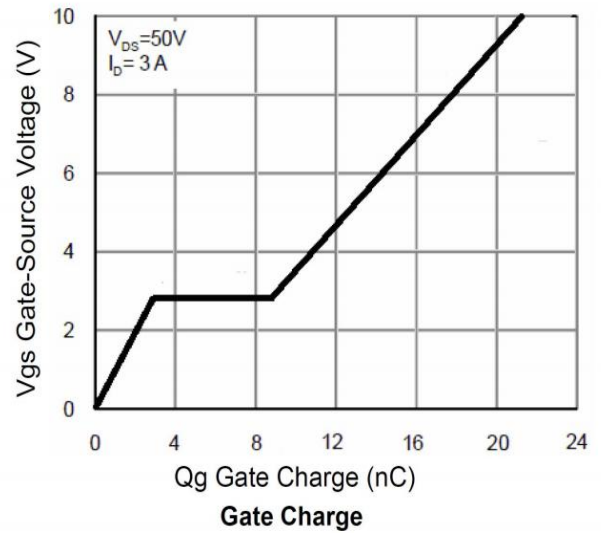
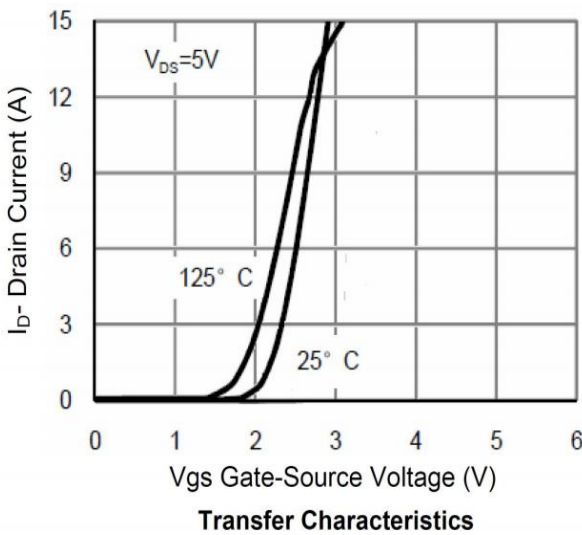
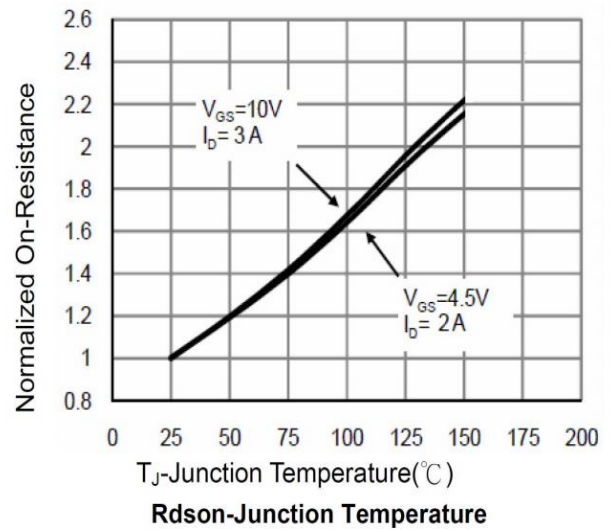
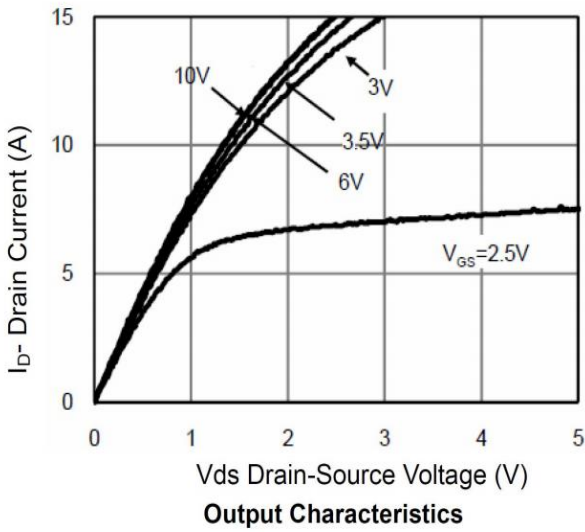
P-CH Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -80V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0		-2.5	V
Drain-source on-resistance ²⁾	R _{DS(on)}	V _{GS} = -10V, I _D = -1A		185	240	mΩ
Dynamic characteristics³⁾						
Input Capacitance	C _{iss}	V _{DS} = -50V, V _{GS} = 0V, f = 1MHz		730		pF
Output Capacitance	C _{oss}			60		
Reverse Transfer Capacitance	C _{rss}			45		
Total Gate Charge	Q _g	V _{DS} = -50V, V _{GS} = -10V, I _D = -2.1A		16		nC
Gate-Source Charge	Q _{gs}			2.5		
Gate-Drain Charge	Q _{gd}			4.8		
Turn-on delay time	t _{d(on)}	V _{DD} = -50V, V _{GS} = -10V, I _D = -1A R _{GEN} = 6Ω		4.3		nS
Turn-on rise time	t _r			5.8		
Turn-off delay time	t _{d(off)}			21		
Turn-off fall time	t _f			11		
Source-Drain Diode characteristics						
Diode Forward Current	I _S				-3	A
Diode Forward voltage	V _{DS}	V _{GS} = 0V, I _S = -1A			-1.2	V

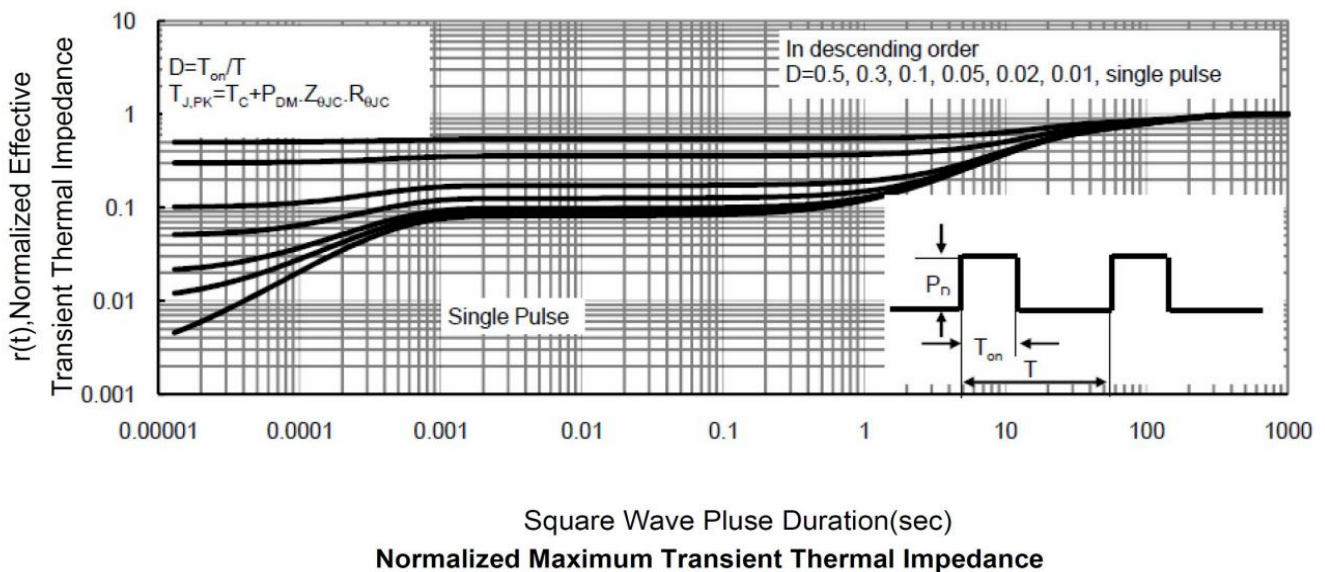
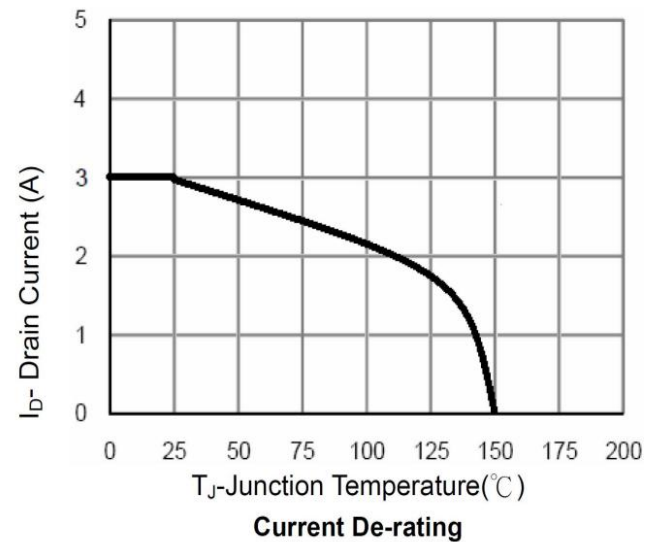
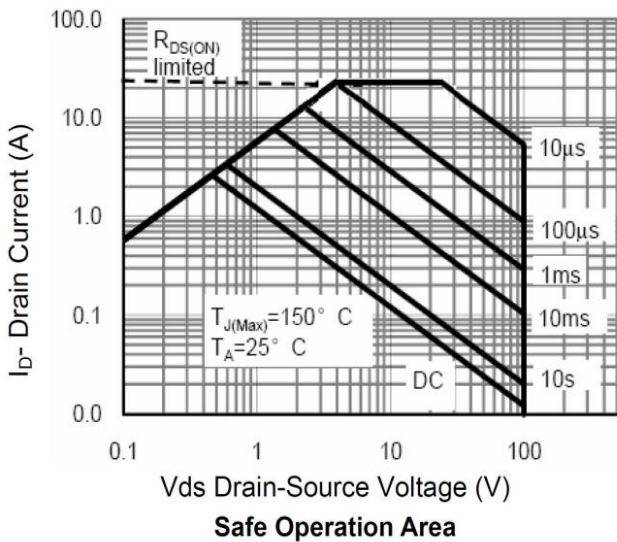
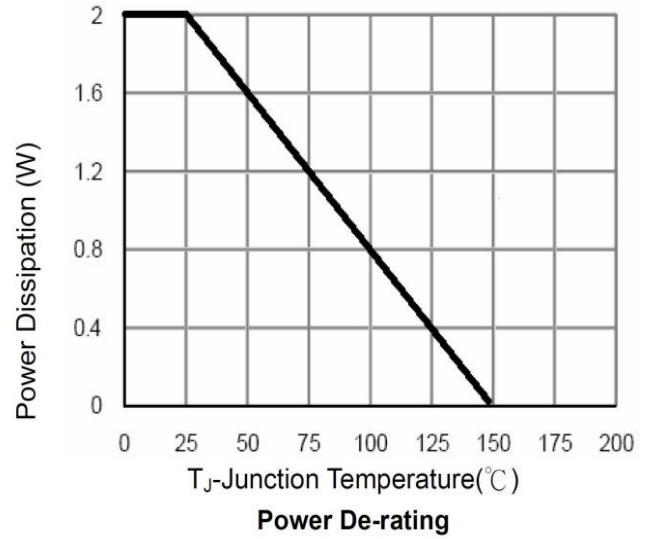
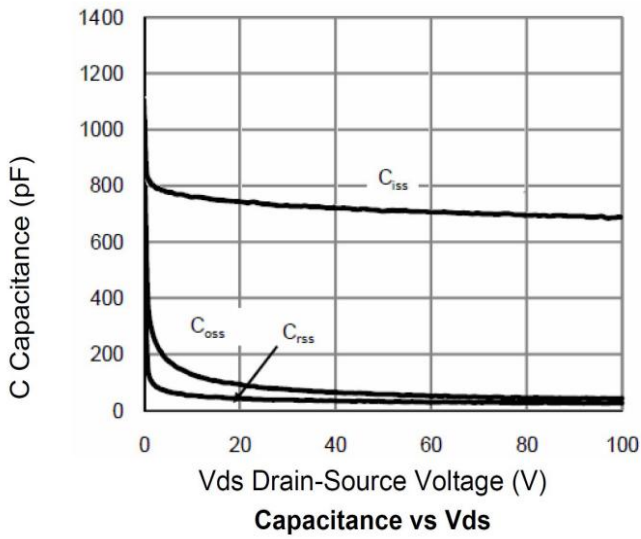
Notes:

- 1) Surface Mounted on FR4 Board, t_s ≤ 10 sec.
- 2) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤ 2%.
- 3) Guaranteed by design, not subject to production testing.

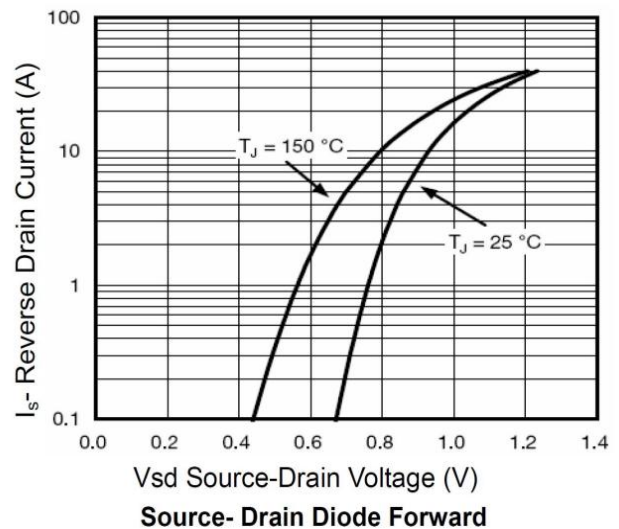
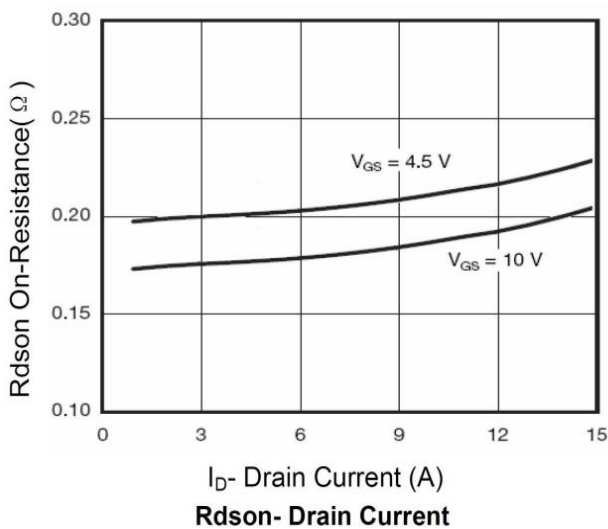
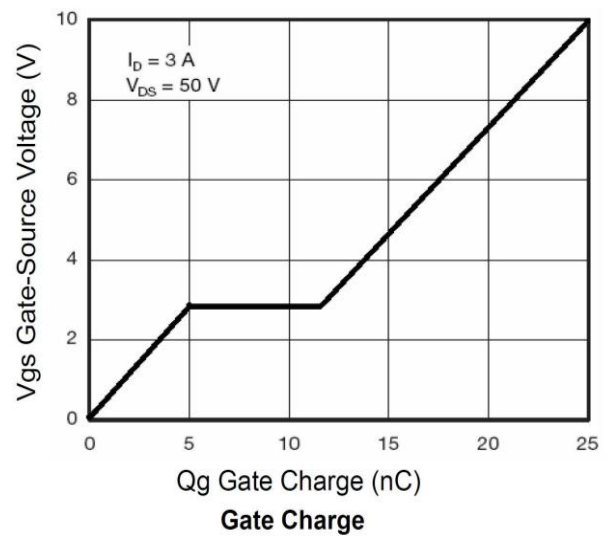
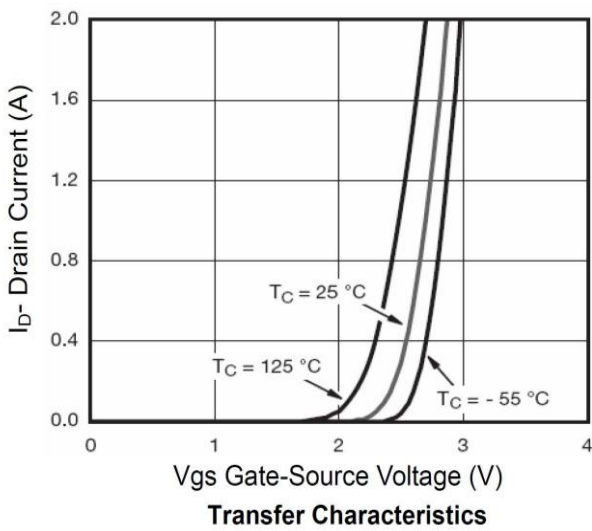
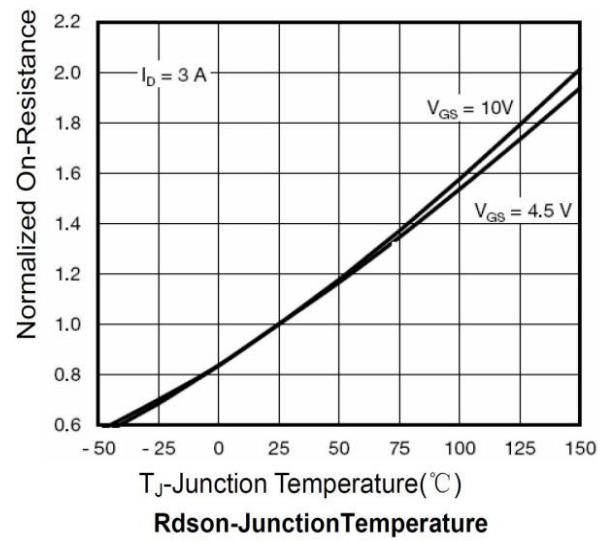
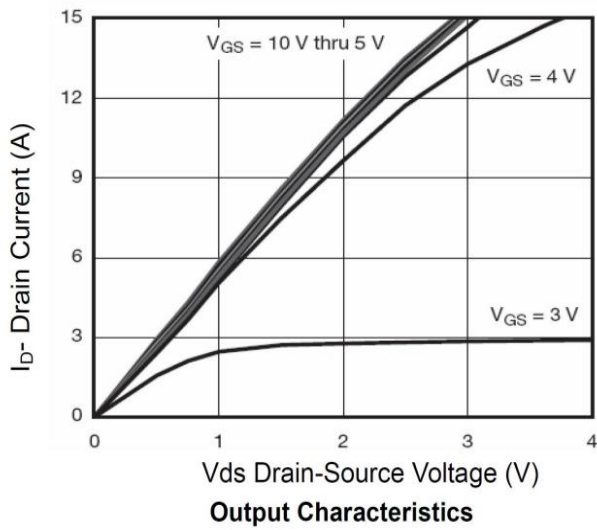
N- Channel Typical Characteristics



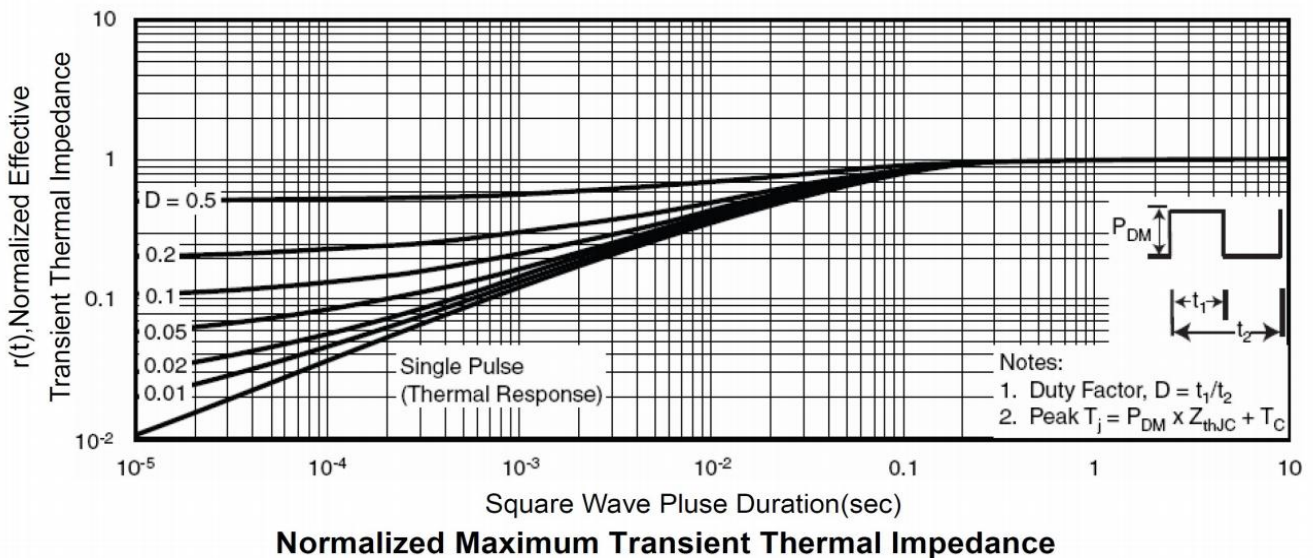
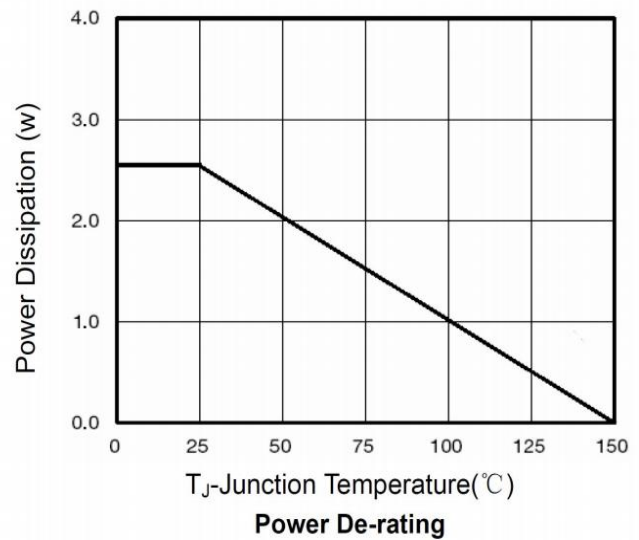
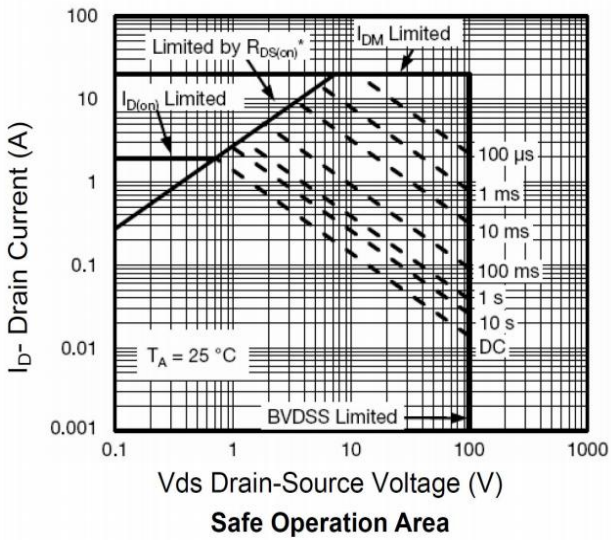
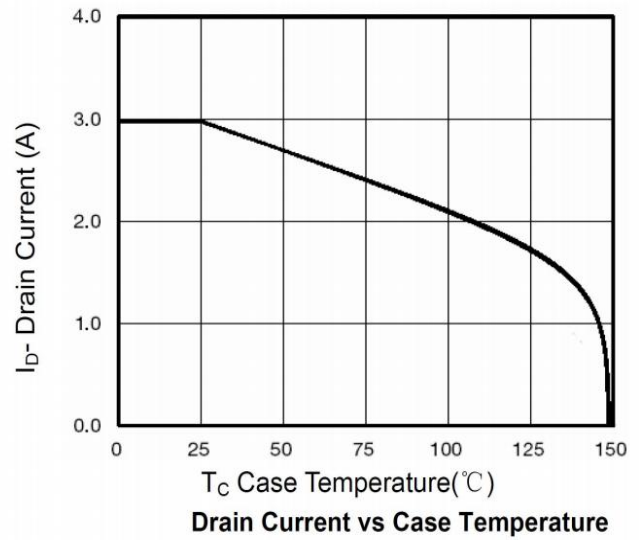
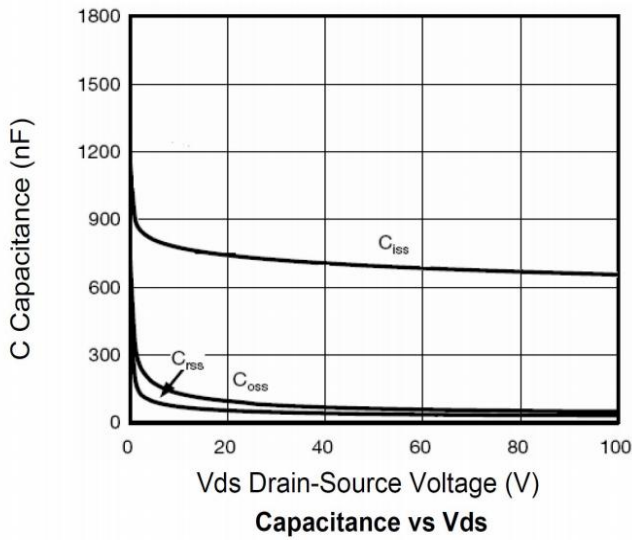
N- Channel Typical Characteristics



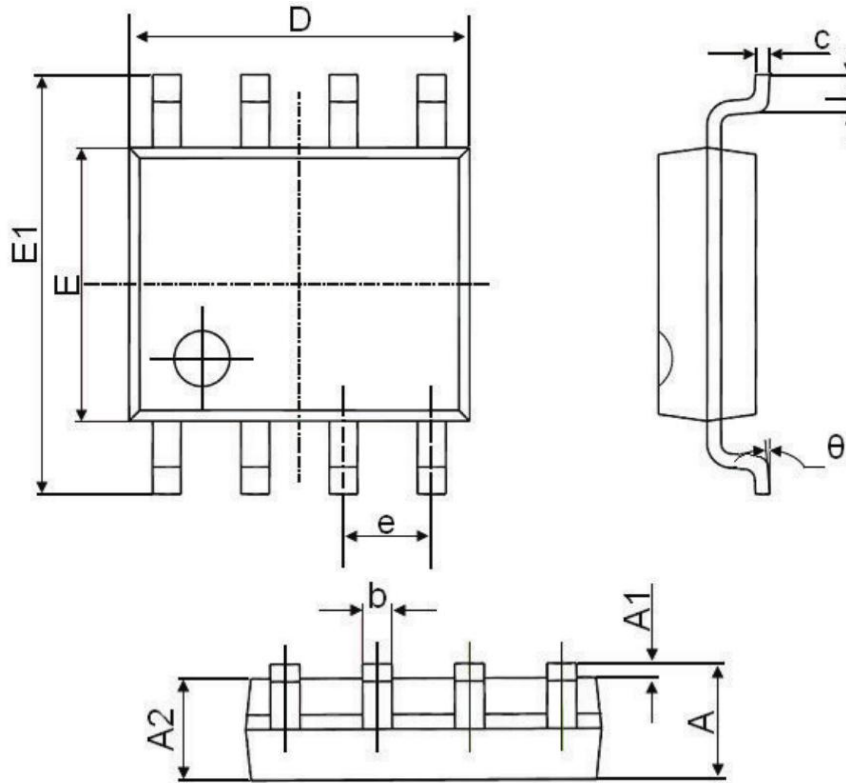
P- Channel Typical Characteristics



P- Channel Typical Characteristics



SOP-8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°