



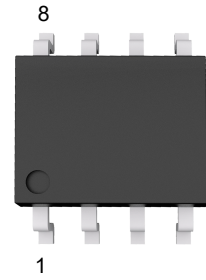
PJM08C30PA

N and P-Channel Complementary Power MOSFET

Features

- **N-Channel**
 $V_{DS}=30V, I_D=5.8A$
 $R_{DS(on)} < 31m\Omega @ V_{GS}=10V$
- **P-Channel**
 $V_{DS}=-30V, I_D=-4.1A$
 $R_{DS(on)} < 60m\Omega @ V_{GS}=-10V$
- Low On-Resistance
- Low Input Capacitance
- Fast Switching Speed

SOP-8

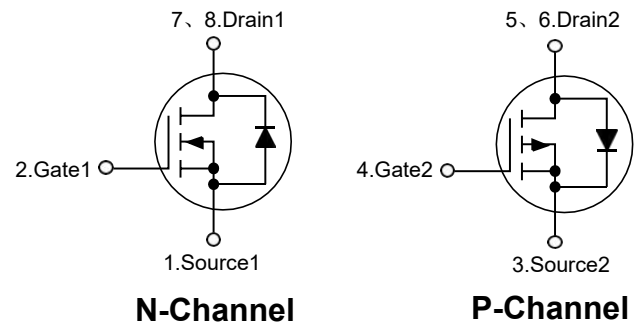


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Schematic Diagram

Applications

- Power management



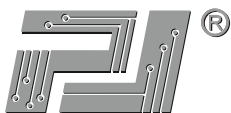
Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V_{DS}	30	-30	V
Gate-Source Voltage	V_{GS}	±20		V
Drain Current-Continuous	I_D	8	-7	A
Drain Current-Pulsed ^{Note1}	I_{DM}	20	-20	A
Maximum Power Dissipation	P_D	2		W
Junction Temperature	T_J	150		°C
Storage Temperature Range	T_{STG}	-55 to +150		°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	62.5	°C/W
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N-Channel

Electrical Characteristics

($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	30	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.2	1.6	2.4	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=10V, I_D=5A$	--	25	31	m Ω
		$V_{GS}=4.5V, I_D=5A$	--	32	40	m Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=5V, I_D=5A$	--	15	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V, f=1\text{MHz}$	--	485.8	--	pF
Output Capacitance	C_{oss}		--	65.2	--	pF
Reverse Transfer Capacitance	C_{rss}		--	54	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=15V, R_L=3\Omega$ $V_{GS}=10V, R_{GEN}=3\Omega$	--	5	--	nS
Turn-on Rise Time	t_r		--	3	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	15	--	nS
Turn-off Fall Time	t_f		--	3.5	--	nS
Total Gate Charge	Q_g	$V_{DS}=15V, I_D=5.8A, V_{GS}=10V$	--	12.6	--	nC
Gate-Source Charge	Q_{gs}		--	1.9	--	nC
Gate-Drain Charge	Q_{gd}		--	2.6	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=5.8A$	--	--	1.2	V
Diode Forward Current ^{Note2}	I_S		--	--	5.8	A



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N and P-Channel Complementary Power MOSFET

P-Channel

Electrical Characteristics

($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	30	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	$V_{DS}=-24V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note3}	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	1	1.4	3	V
Drain-source on-resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-4.1A$	--	48	60	m Ω
		$V_{GS}=-4.5V, I_D=-3A$	--	60	87	m Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=-5V, I_D=-4A$	5.5	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	--	650	--	pF
Output Capacitance	C_{oss}		--	105	--	pF
Reverse Transfer Capacitance	C_{rss}		--	65	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, R_L=3.6\Omega$ $V_{GS}=-10V, R_{CEN}=3\Omega$	--	8.5	--	nS
Turn-on Rise Time	t_r		--	4.5	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	26	--	nS
Turn-off Fall Time	t_f		--	12.5	--	nS
Total Gate Charge	Q_g	$V_{DS}=-15V$ $I_D=-4.1A, V_{GS}=-10V$	--	12.5	--	nC
Gate-Source Charge	Q_{gs}		--	2.8	--	nC
Gate-Drain Charge	Q_{gd}		--	2.7	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	$-V_{SD}$	$V_{GS}=0V, I_S=-4.1A$	--	--	1.2	V
Diode Forward Current ^{Note2}	$-I_S$		--	--	4.1	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, $t \leq 10$ sec.

3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

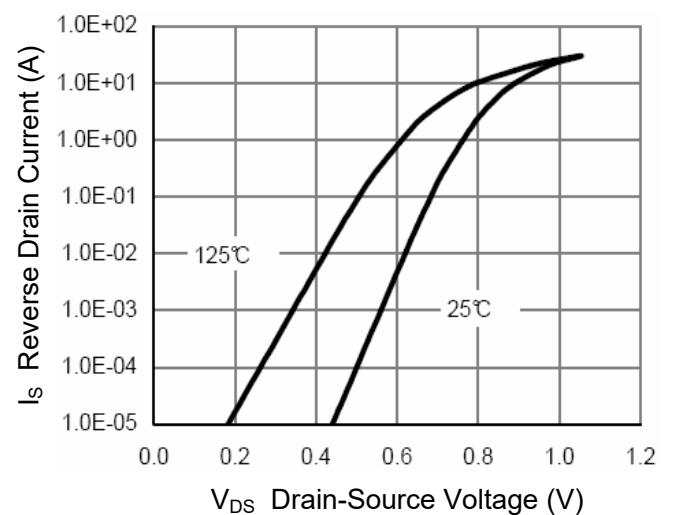
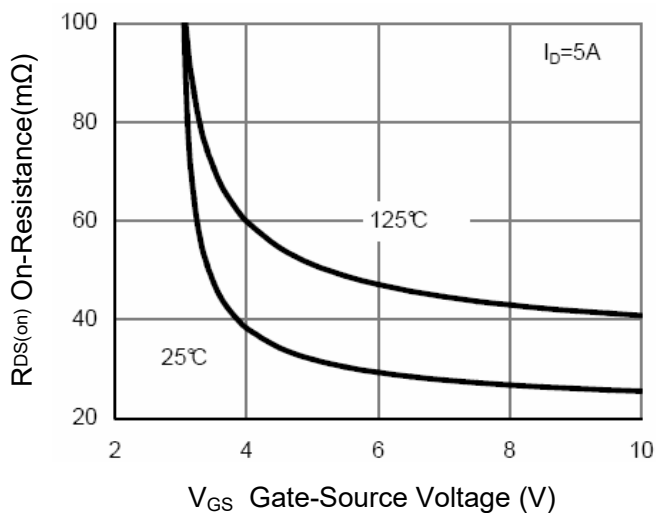
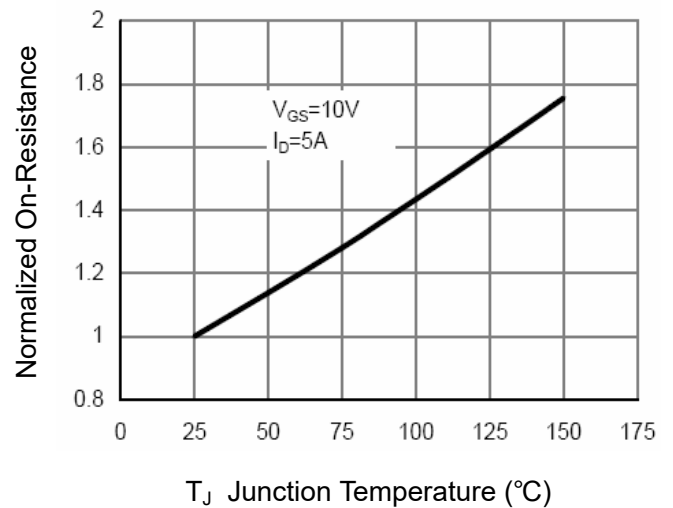
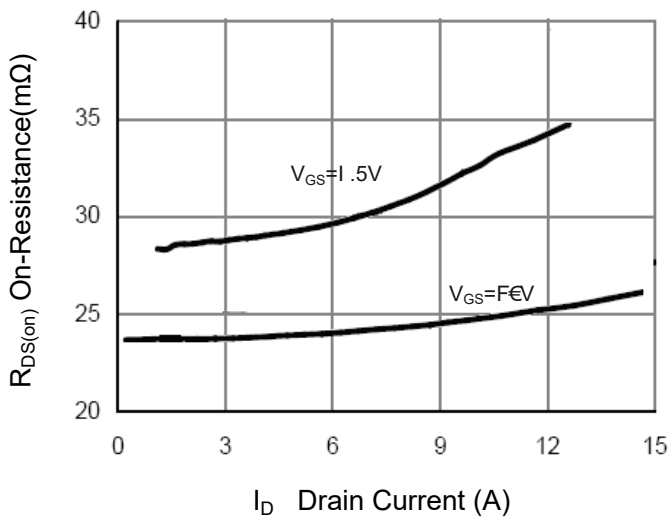
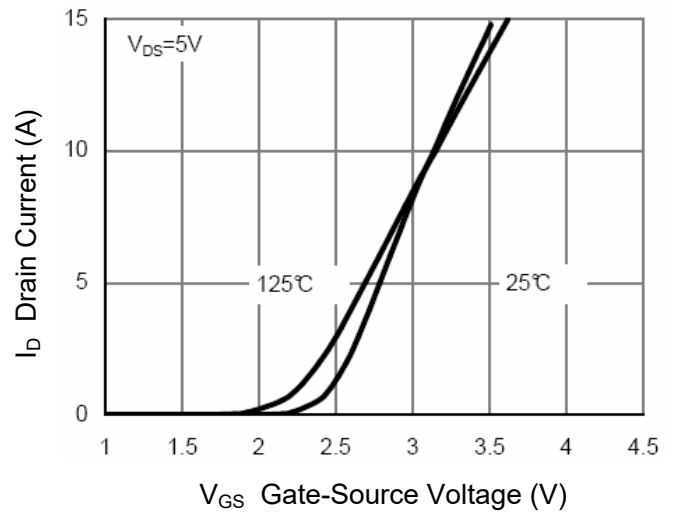
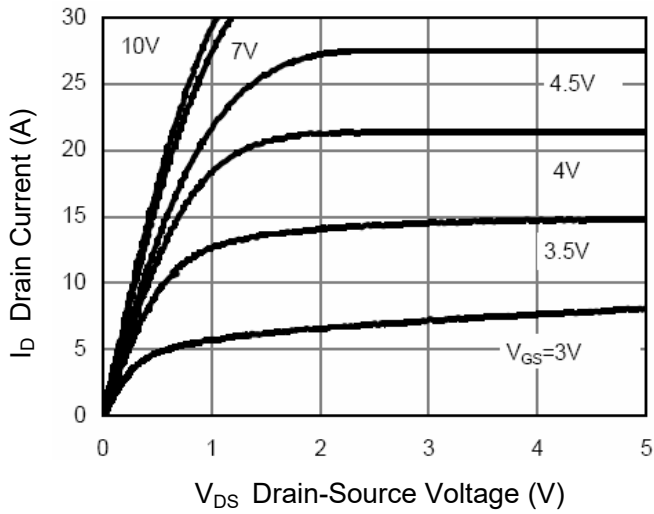


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N-Channel

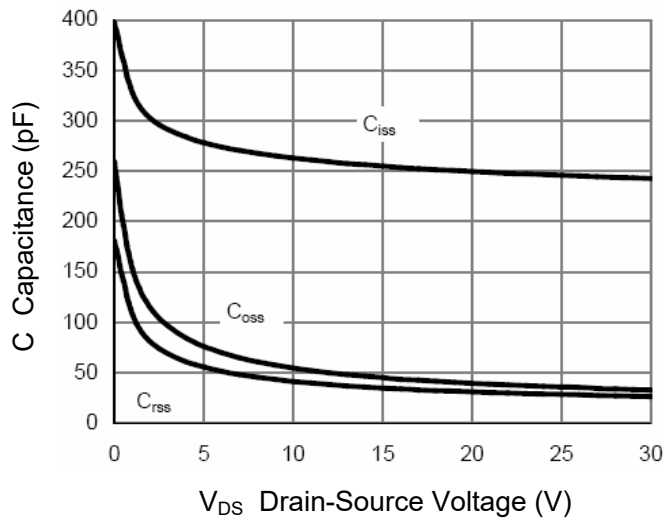
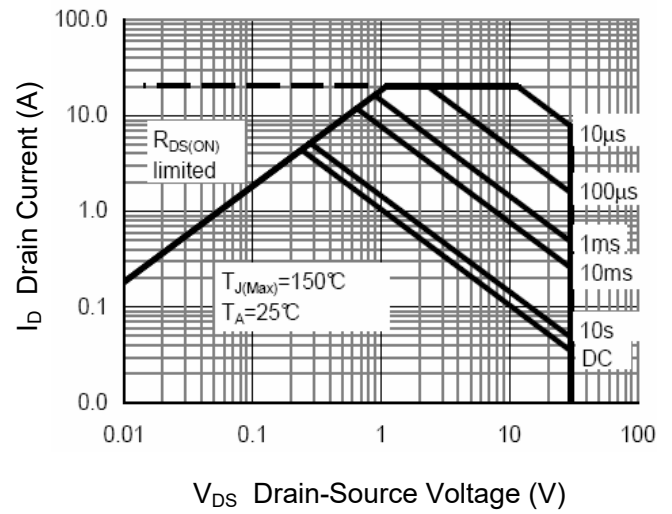
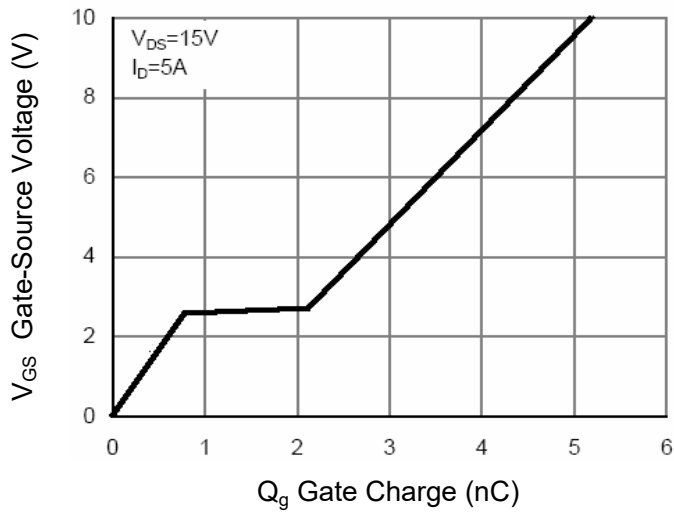
Typical Characteristics Curves





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N and P-Channel Complementary Power MOSFET



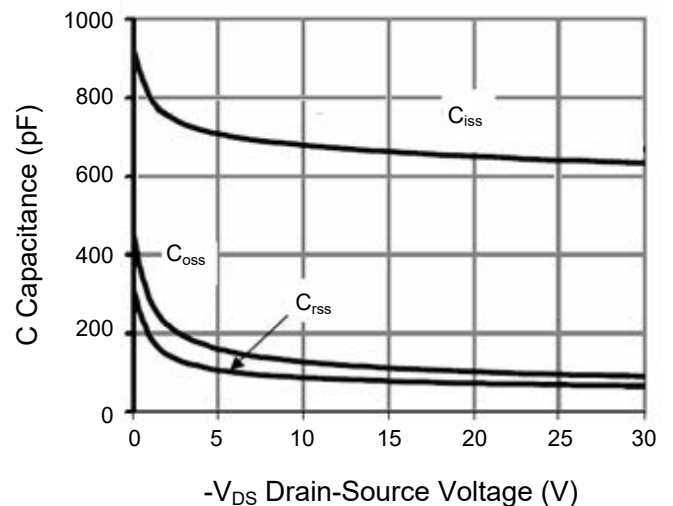
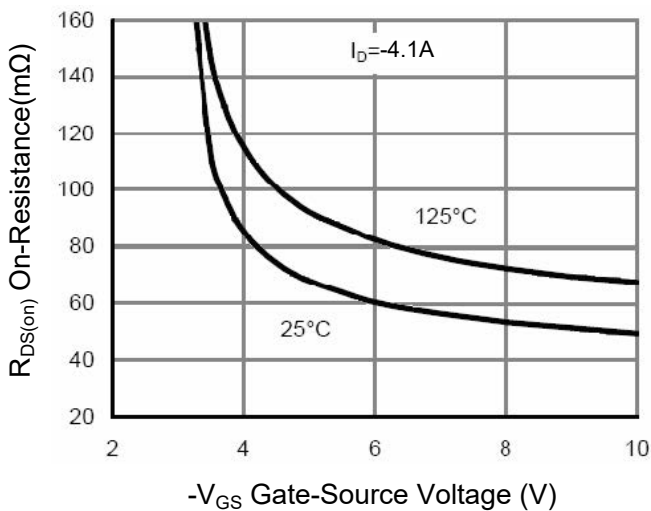
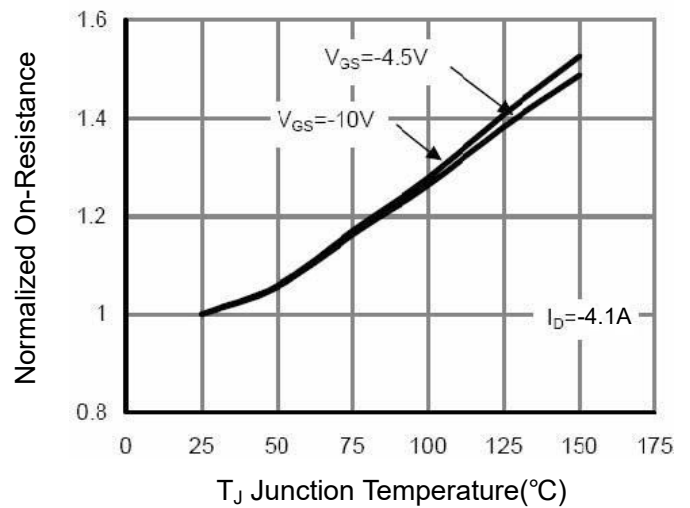
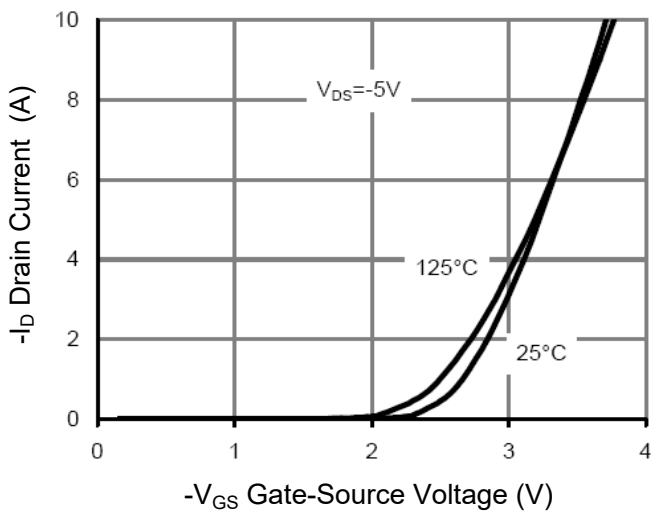
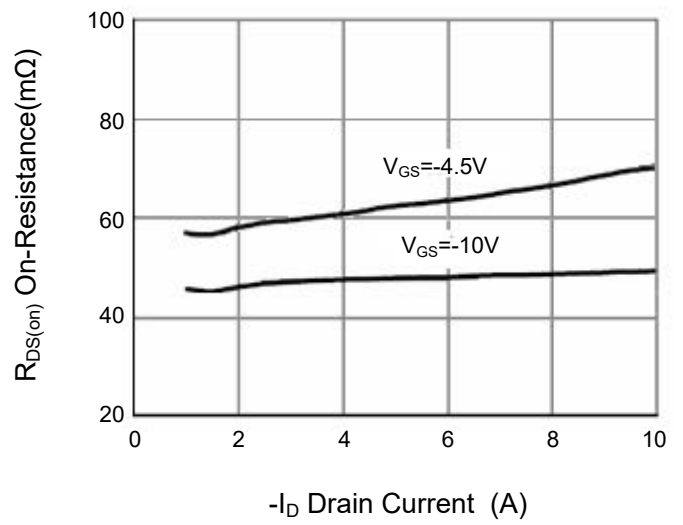
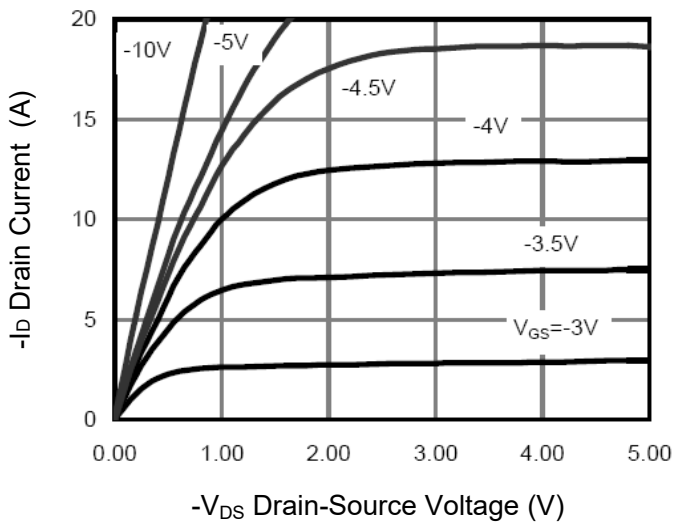


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P-Channel

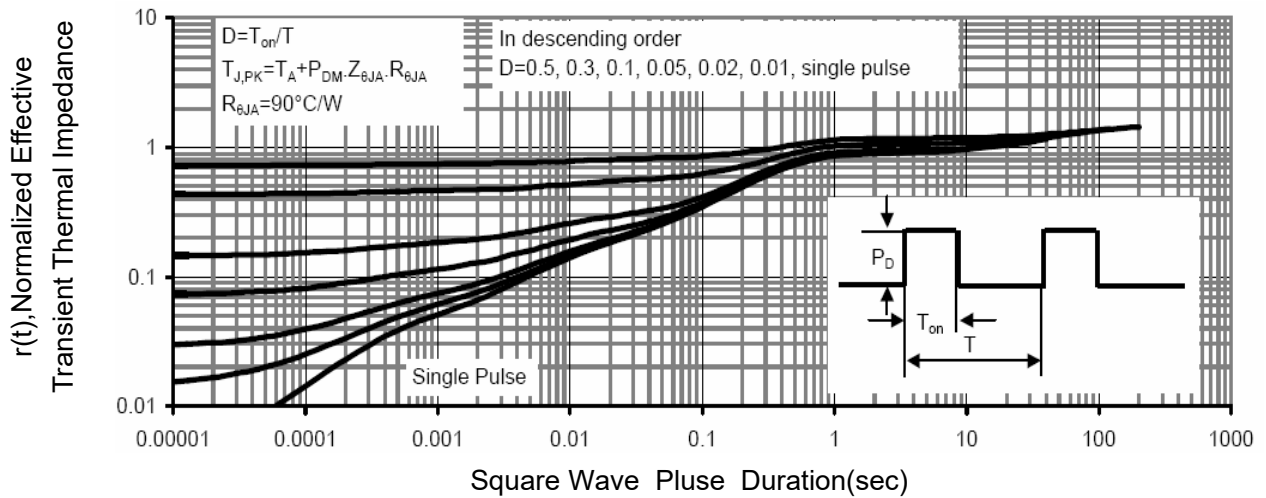
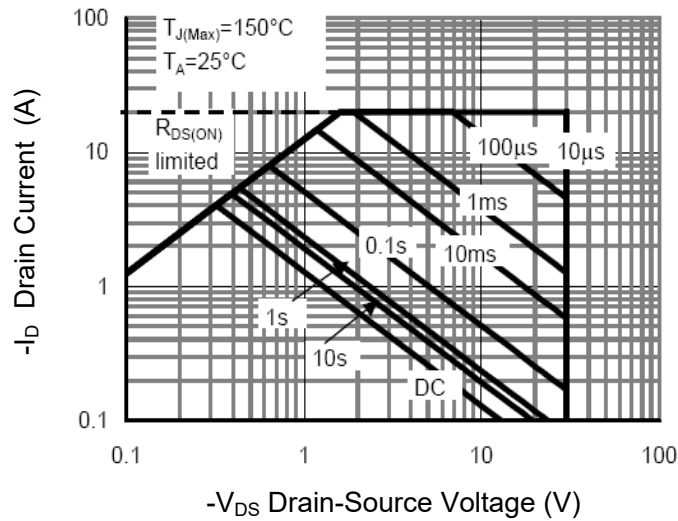
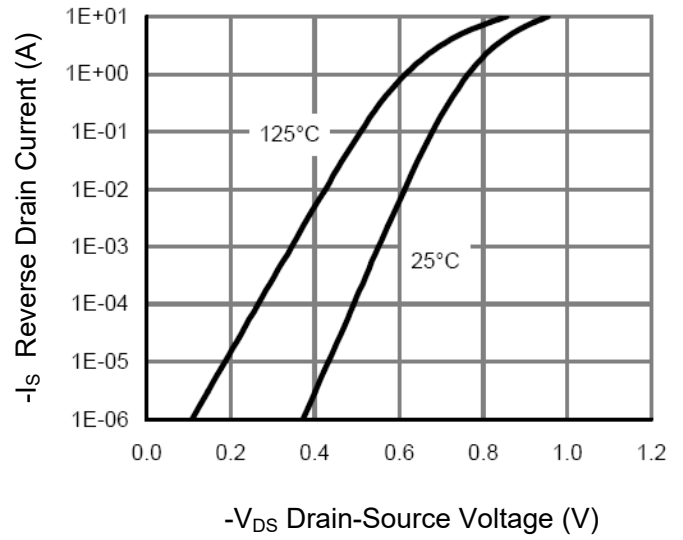
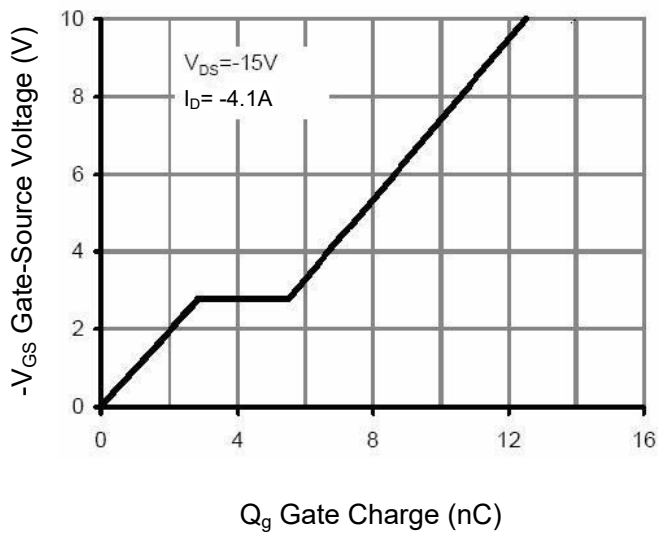
Typical Characteristics Curves





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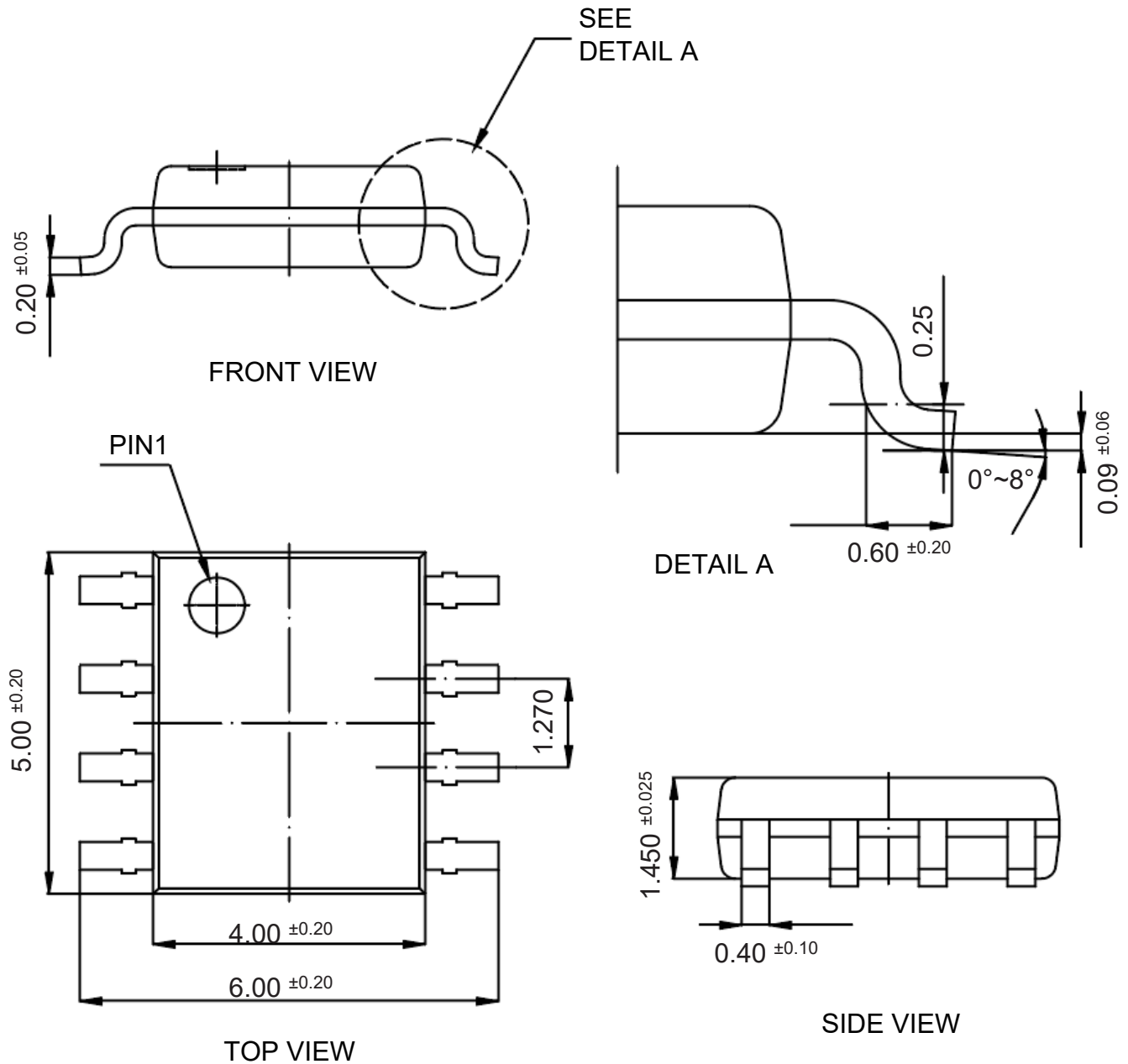
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Package Outline

SOP-8

Dimensions in mm



Ordering Information

Device	Package	Shipping
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