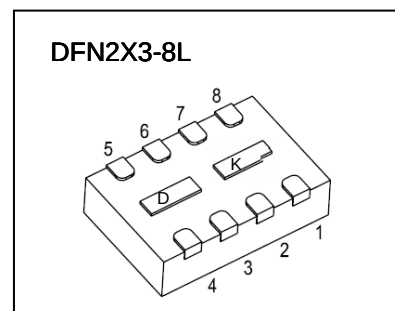


P-channel MOSFET and Schottky Barrier Diode

$V_{(BR)DSS}/V_R$	$R_{DS(on)MAX}$	I_D/I_O
-20V	100mΩ@-4.5V	-2.0A
	135mΩ@-2.5V	
	180mΩ@-1.8V	
30V	/	1.0A



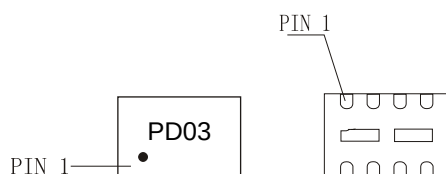
FEATURE

- Independent Pinout to Each Device to Each Device to Ease Circuit Design
- High Current Schottky Diode
- Featuring a MOSFET and a
- Schottky Barrier Diode

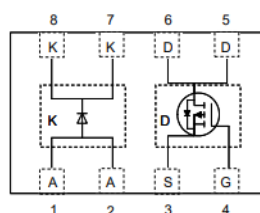
APPLICATION

- Optimized for Portable Applications Like Cell Phones, Digital Cameras, Media Players, etc
- DC-DC Buck Circuits
- Li-ion Battery Applications
- Color Display and Camera Flash Regulators

MARKING



Equivalent Circuit



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Para	meter	Value	Unit
P-MOSFET				
V_{DS}	Drain-Source Voltage		-20	V
V_{GS}	Gate-Source Voltage		±8	V
I_D	Continuous Drain Current		-2.0	A
I_{DM}^*	Pulse Drain Current		-8	A
Schottky Barrier Diode				
V_R	DC Blocking Voltage		30	V
I_O	Average Rectified Forward Current		1.0	A
Power Dissipation, Temperature and Thermal Resistance				
P_D	Power Dissipation		1.2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient		104	$^\circ\text{C}/\text{W}$
T_j	Junction Temperature		150	$^\circ\text{C}$
T_{stg}	Storage Temperature		-55~+150	$^\circ\text{C}$
T_L	Lead Temperature for Soldering Purposes(1/8" from case for 10 s)		260	$^\circ\text{C}$

*Repetitive rating: Pluse width limited by junction temperature.

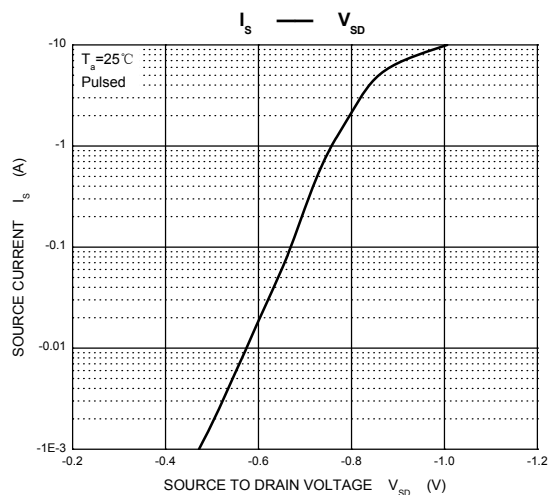
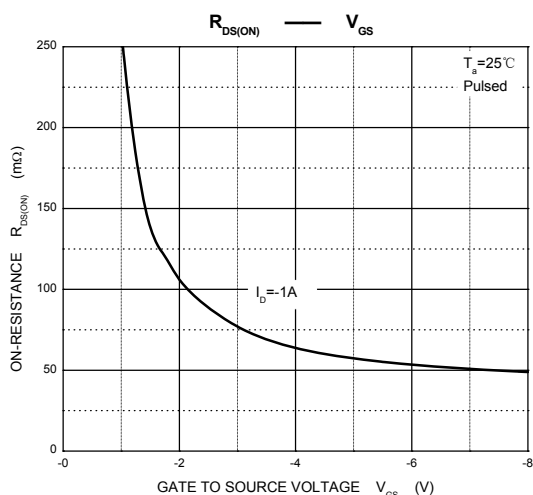
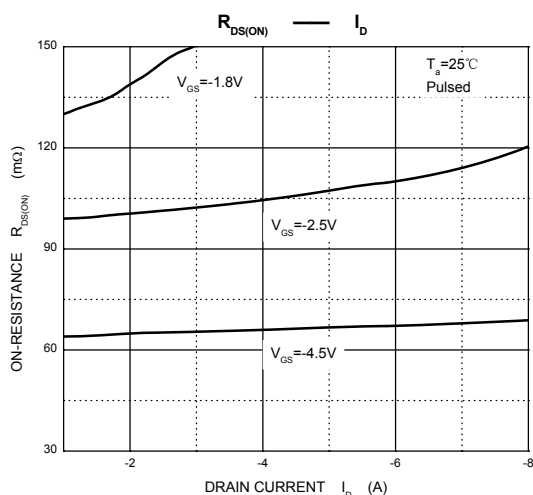
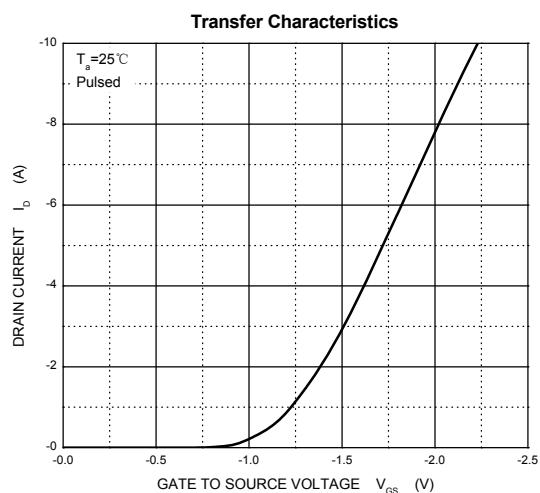
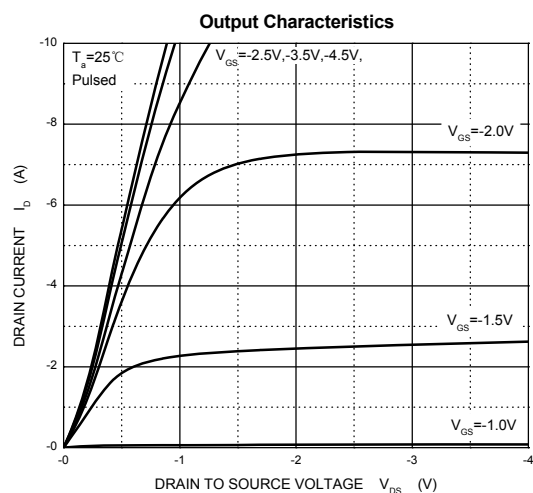
MOSFET ELECTRICAL CHARACTERISTICS $T_a=25^{\circ}\text{C}$ unless otherwise specified**ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
P-MOSFET						
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=-16V, V_{GS}=0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.5		-1.2	V
Drain-source on-resistance(note1)	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-1A$		100	150	m Ω
		$V_{GS}=-2.5V, I_D=-1A$		135	220	m Ω
		$V_{GS}=-1.8V, I_D=-1A$		250	350	m Ω
Diode forward voltage(note1)	V_{SD}	$I_S=-0.1A, V_{GS}=0V$			-1	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$		531		pF
Output capacitance	C_{oss}			91		pF
Reverse transfer capacitance	C_{rss}			56		pF
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS}=-4.5V, V_{DD}=-5V,$ $R_G=6\Omega, I_D=-1A$		5.2		ns
Turn-on rise time	t_r			13.2		ns
Turn-off delay time	$t_{d(off)}$			13.7		ns
Turn-off fall time	t_f			19.1		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-4.5V,$ $I_D=-2A$		5.5		nC
Gate-Source Charge	Q_{gs}			1.0		nC
Gate-Drain Charge	Q_{gd}			1.4		nC
Gate Resistance	R_g			8.8		Ω
SCHOTTKY BARRIER DIODE						
Forward voltage	V_F	$I_F=0.5A$			0.45	V
Reverse current	I_R	$V_R=30V$		20	200	μA

Note:

- 1.Pulse test: pulse width $\approx 300\mu s$, duty cycles $\leq 2\%$
- 2.These parameters have no way to verify.

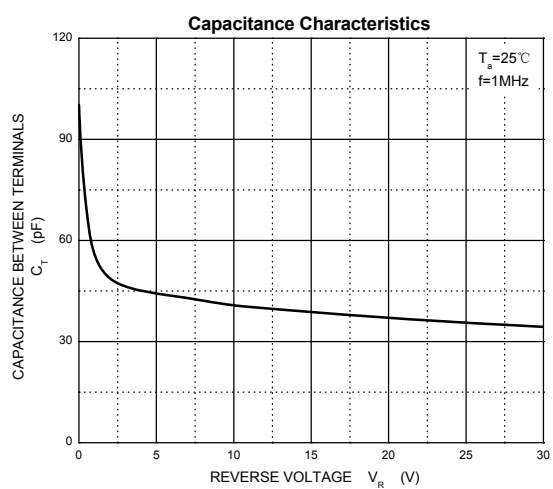
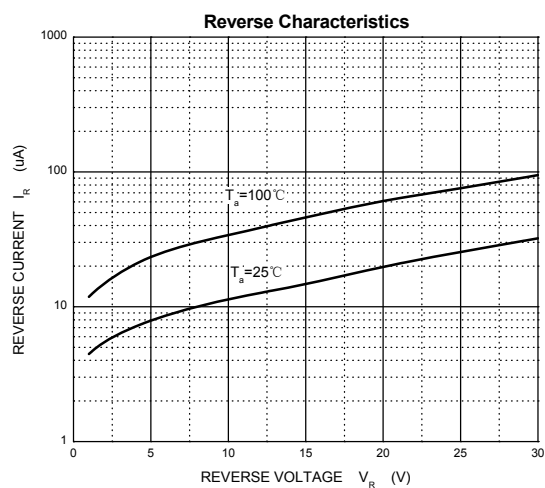
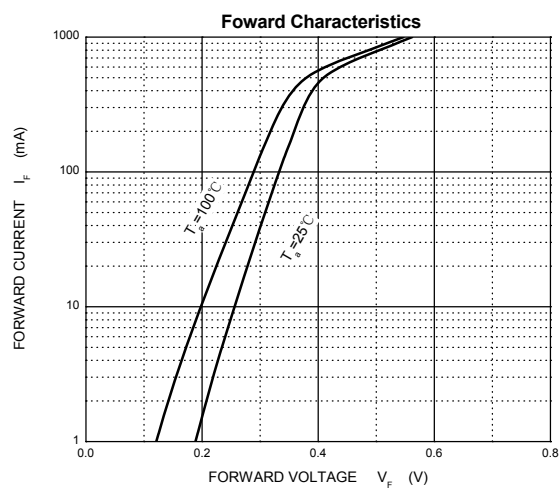
P-channel Characteristics



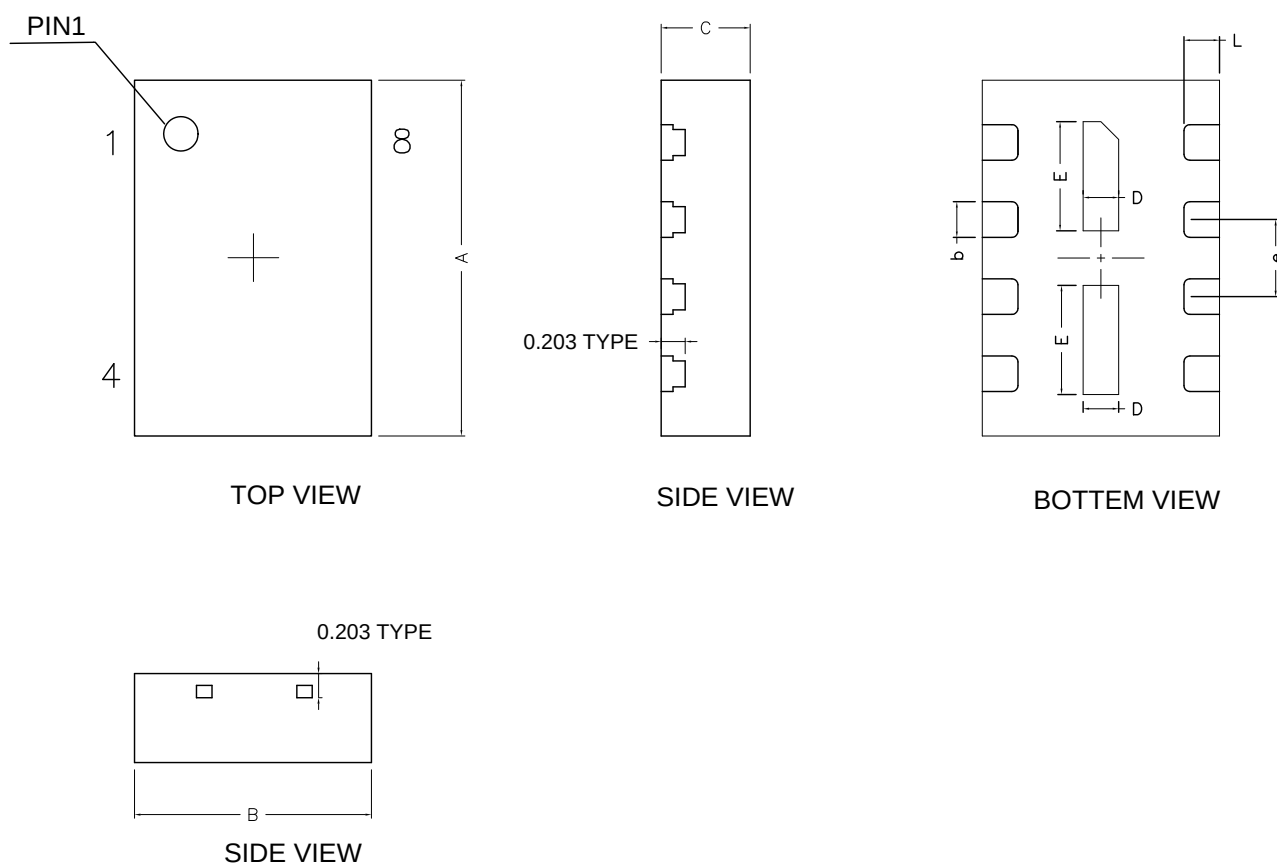
P-channel MOSFET and Schottky Barrier Diode

Typical Characteristics

Schottky Characteristics



Package Outline Dimensions



COMMON DIMENSIONS
(UNITS OF MEASURE IS mm)

	MIN	NORMAL	MAX
A	2.900	3.000	3.100
B	1.900	2.000	2.100
C	0.700	0.750	0.800
D	0.250	0.300	0.350
E	0.870	0.920	0.970
L	0.350	0.400	0.450
b	0.250	0.300	0.350
e	0.650 TYPE		