

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	10mΩ@10V	12A
	13mΩ@4.5V	

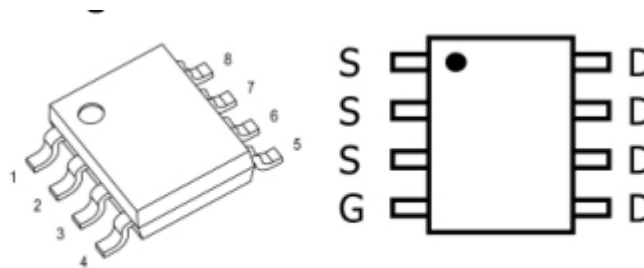
Feature

- Fast Switching
- Low Gate Charge and Rdson
- Advanced Split Gate Trench Technology
- 100% Single Pulse avalanche energy Test

Application

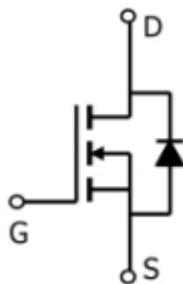
- Power switching application
- PWM Application
- DC-DC Converter

Package

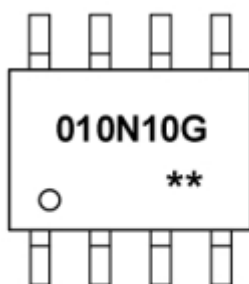


SOP-8L

Circuit diagram



Marking



010N10G =Device Code
****** =Week Code

Absolute maximum ratings

(T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	100	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	12	A
Pulsed Drain Current ²	I _{DM}	48	A
Single Pulse Avalanche Energy ³	E _{AS}	156	mJ
Total Power Dissipation ⁴	P _D	3.5	W
Thermal Resistance Junction-Ambient ¹	R _{θJA}	36	°C/ W
Storage Temperature Range	T _{STG}	-55~ +150	°C
Operating Junction Temperature Range	T _J	-55~ +150	°C

Electrical characteristics

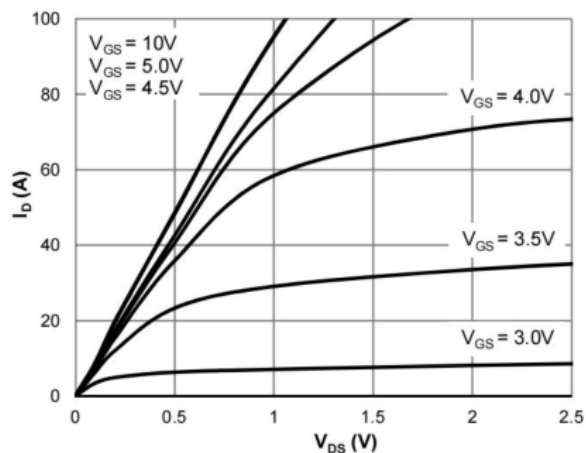
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V, T_J = 25^{\circ}C$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.2	1.9	2.5	V
Static Drain-Source on-Resistance ²	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10A$		10	14	m Ω
		$V_{GS} = 4.5V, I_D = 8A$		13	18	
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 50V, V_{GS} = 0V, f = 1MHz$		1835		pF
Output Capacitance	C_{oss}			339		
Reverse Transfer Capacitance	C_{rss}			22		
Switching Characteristics						
Total Gate Charge (4.5V)	Q_g	$V_{DS} = 50V, V_{GS} = 10V, I_D = 20A$		14		nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			7		
Turn-On Delay Time	$T_{d(on)}$	$V_{DD} = 50V, V_{GS} = 10V, R_L = 2.5\Omega, R_G = 6\Omega$		8		nS
Rise Time	T_r			16		
Turn-Off Delay Time	$T_{d(off)}$			31		
Fall Time	T_f			27		
Drain-Source Diode Characteristics						
Diode forward voltage ²	V_{SD}	$V_{GS} = 0V, I_S = 1A, T_J = 25^{\circ}C$			1.2	V

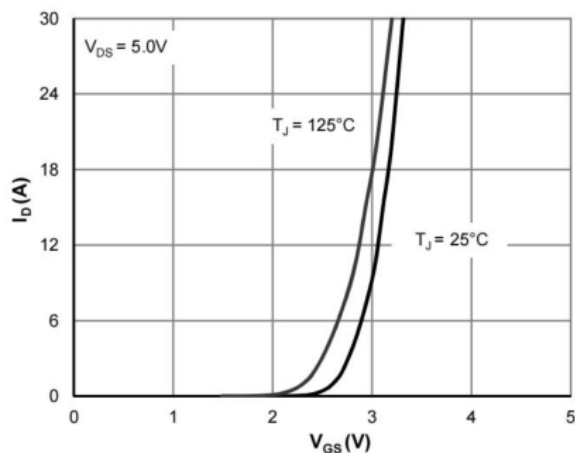
Notes:

1. Surface Mounted on FR4 Board, $t \leq 10$ sec.
2. The data tested by pulsed , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. The EAS data shows Max. rating . The test condition is $V_{DD} = 50V, V_{GS} = 10V, L = 0.5mH, R_g = 25\Omega$
4. The power dissipation is limited by 150°C junction temperature

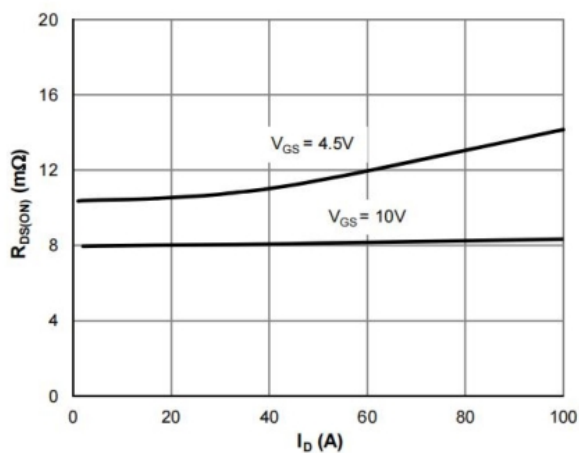
Typical Characteristics



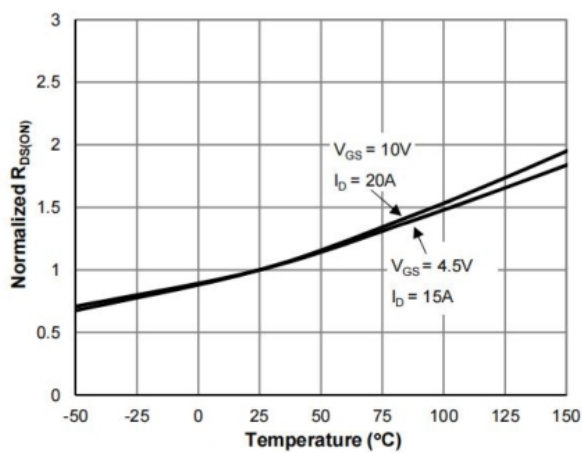
Typical Output Characteristics



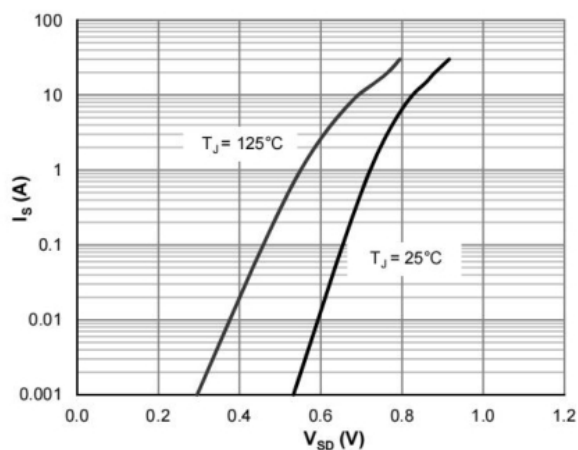
Transfer Characteristics



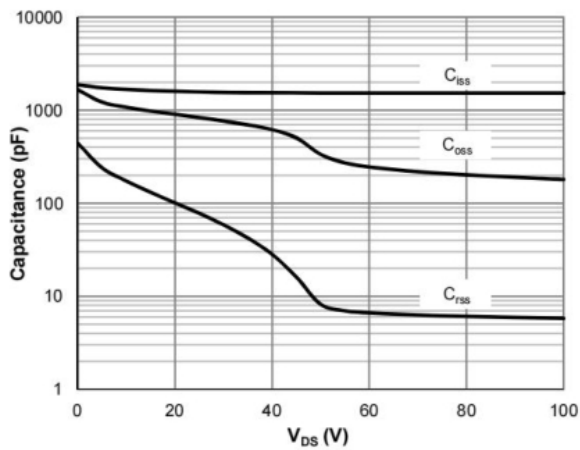
On-Resistance vs. Drain Current



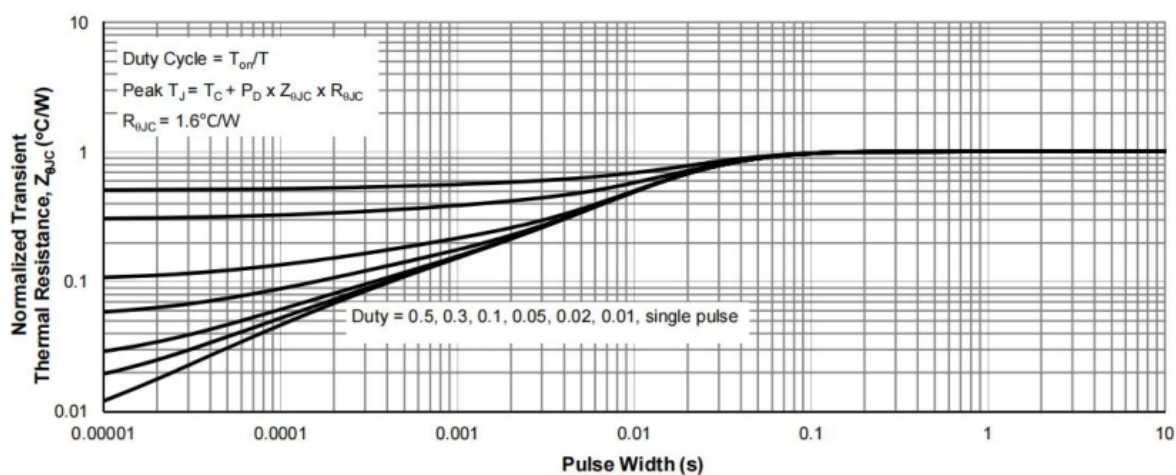
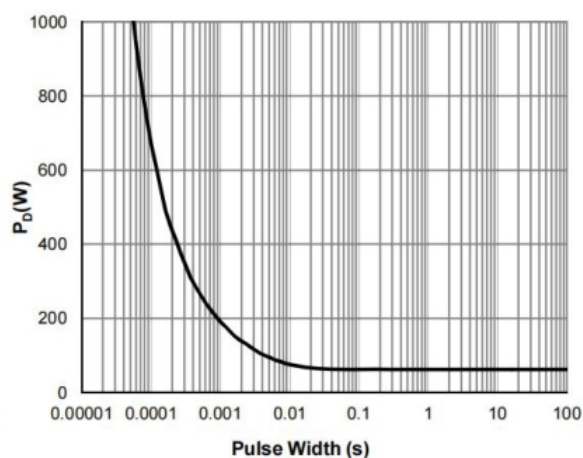
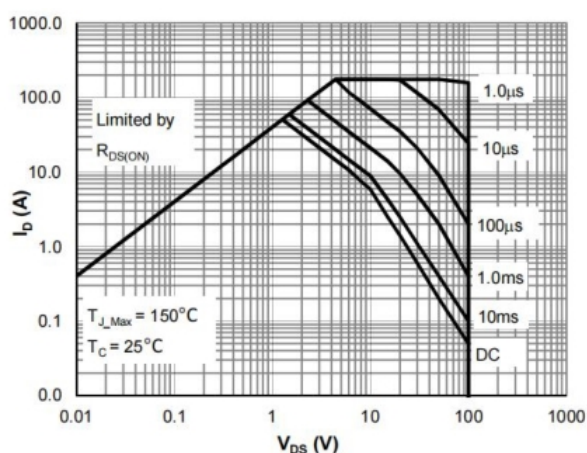
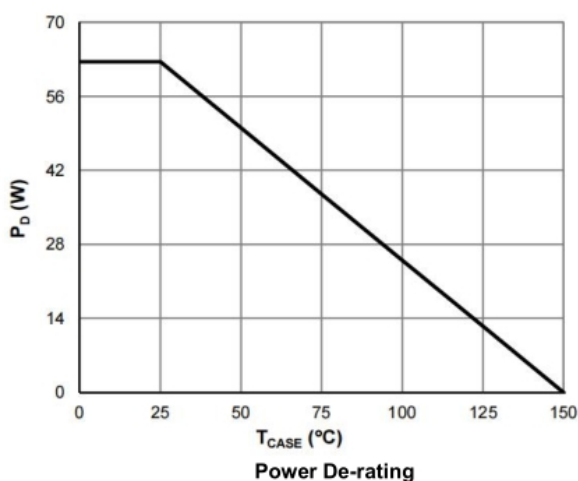
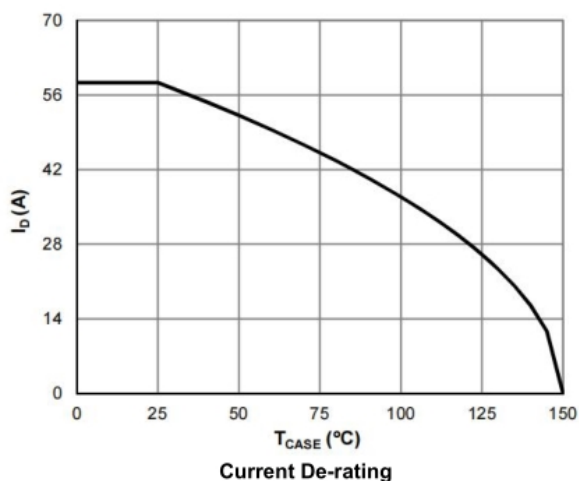
On-Resistance vs. Junction Temperature



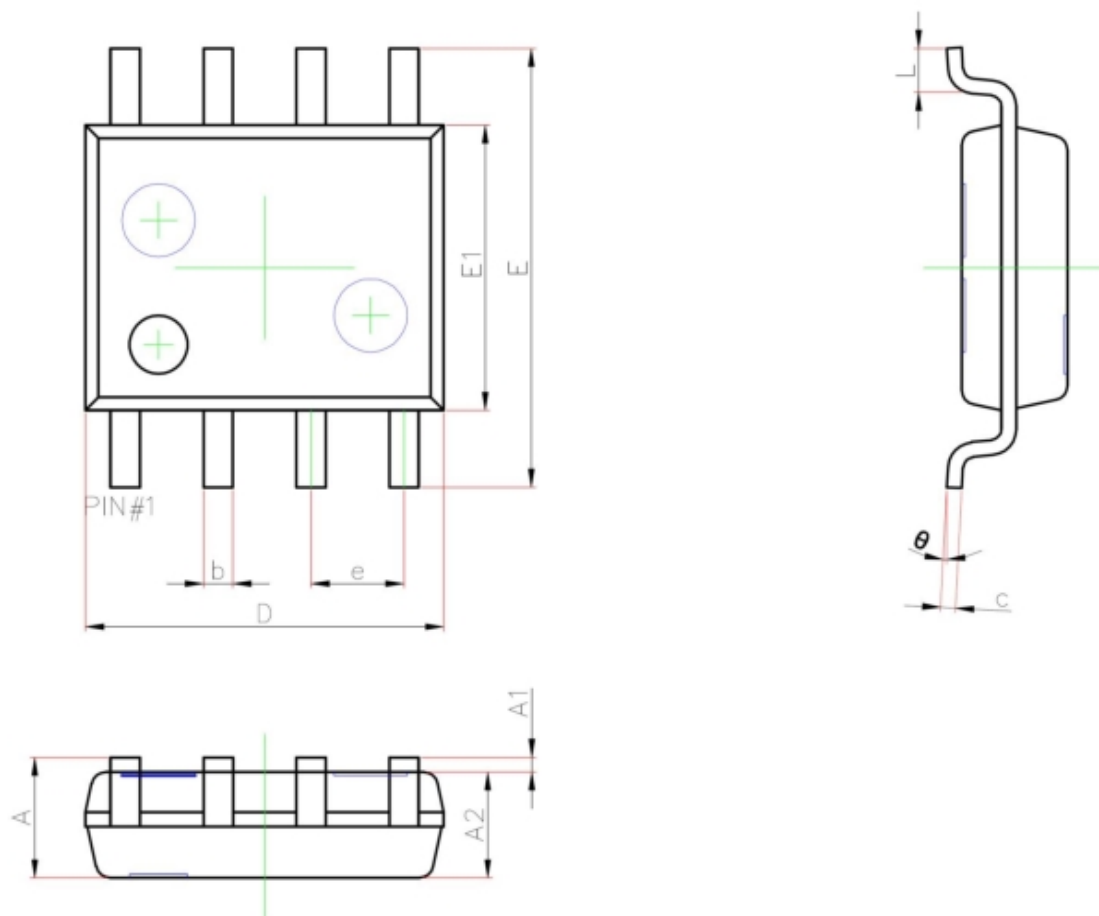
Body-Diode Characteristics



Capacitance Characteristics



SOP-8 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
c	0.17	0.25
D	4.80	5.00
e	1.27 REF.	
E	5.80	6.20
E1	3.80	4.00
L	0.40	1.27
θ	0°	8°