

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100V	1.5mΩ@10V	370A

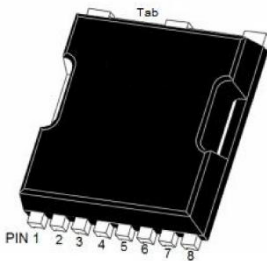
Feature

- Fast Switching
- Low Gate Charge and Rds on
- Advanced Split Gate Trench Technology

Application

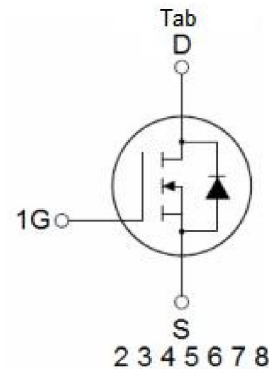
- PWM Application
- Hard switched and high frequency
- Power Management

Package

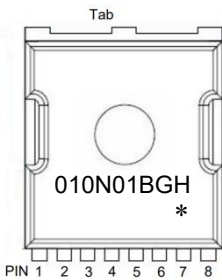


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Circuit diagram



Marking



Absolute maximum ratings (Ta=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($T_C = 25^\circ\text{C}$)	I_D	370	A
Pulsed Drain Current	I_{DM}	1480	A
Power Dissipation ²⁾ ($T_C = 25^\circ\text{C}$)	P_D	410	W
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.3	$^\circ\text{C}/\text{W}$
Single pulse avalanche energy ¹⁾	E_{AS}	608	mJ
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

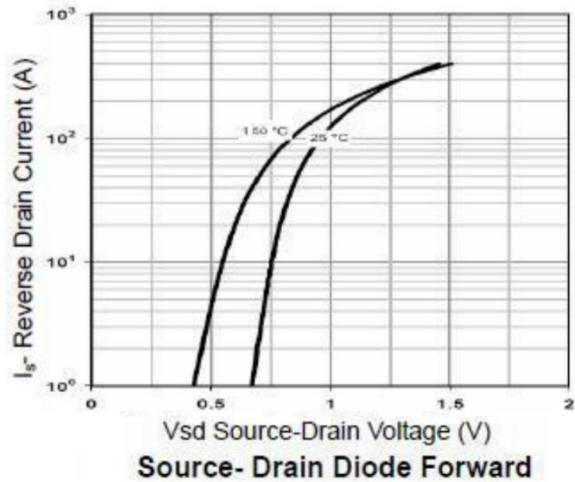
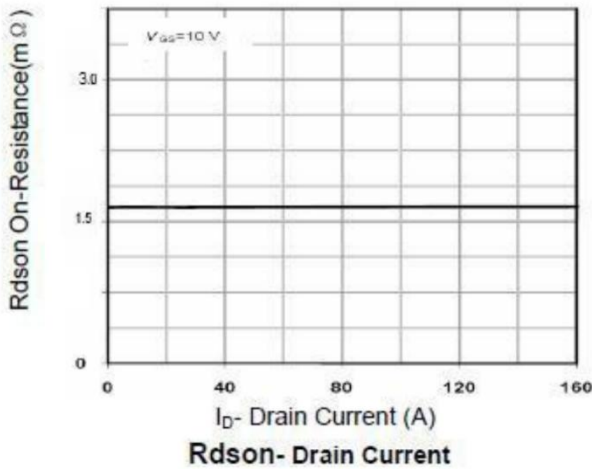
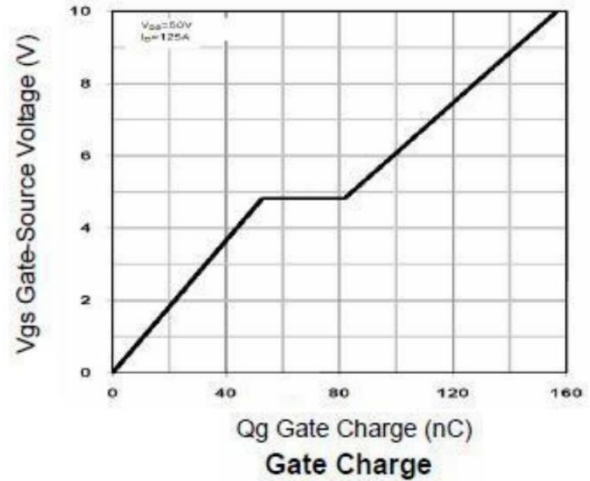
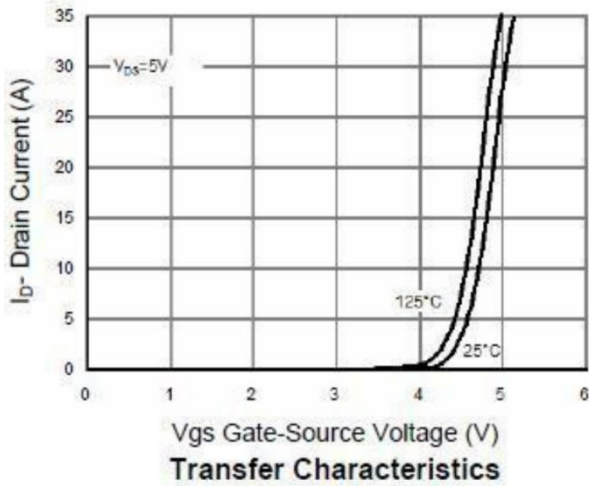
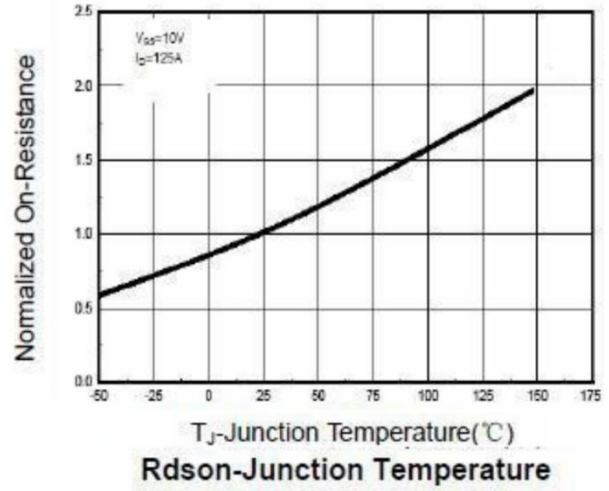
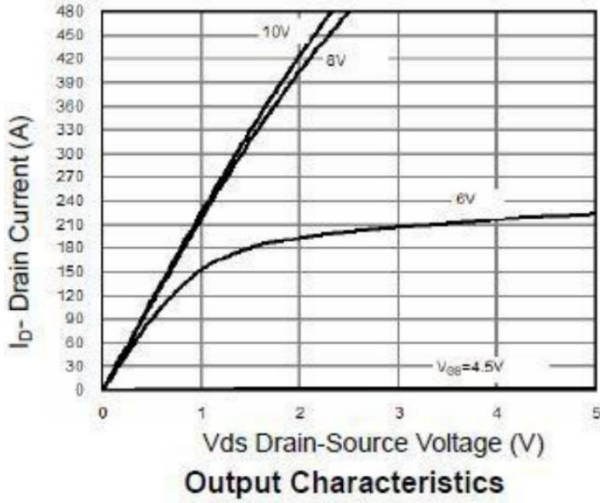
Electrical characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V, T_J = 25^\circ\text{C}$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2	3	4	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 125A$		1.2	1.5	m Ω
Dynamic characteristics³⁾						
Input Capacitance	C_{iss}	$V_{DS} = 50V, V_{GS} = 0V, f = 1\text{MHz}$		14531		pF
Output Capacitance	C_{oss}			1959		
Reverse Transfer Capacitance	C_{rss}			82		
Total Gate Charge	Q_g	$V_{DS} = 50V, V_{GS} = 10V, I_D = 125A$		208		nC
Gate-Source Charge	Q_{gs}			56		
Gate-Drain Charge	Q_{gd}			37		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 50V, V_{GS} = 10V, I_D = 125A, R_G = 1.6\Omega$		25		nS
Turn-on rise time	t_r			75		
Turn-off delay time	$t_{d(off)}$			89		
Turn-off fall time	t_f			29		
Source-Drain Diode characteristics						
Diode Forward voltage ²⁾	V_{SD}	$V_{GS} = 0V, I_S = 1A, T_J = 25^\circ\text{C}$			1.2	V

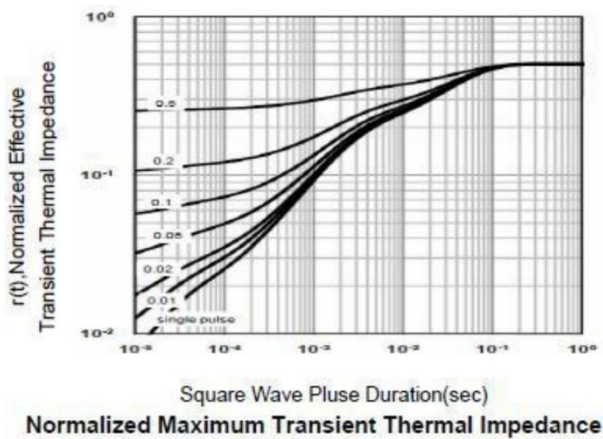
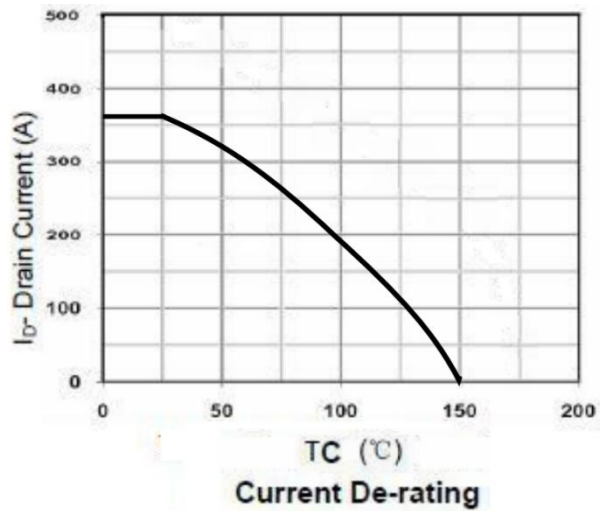
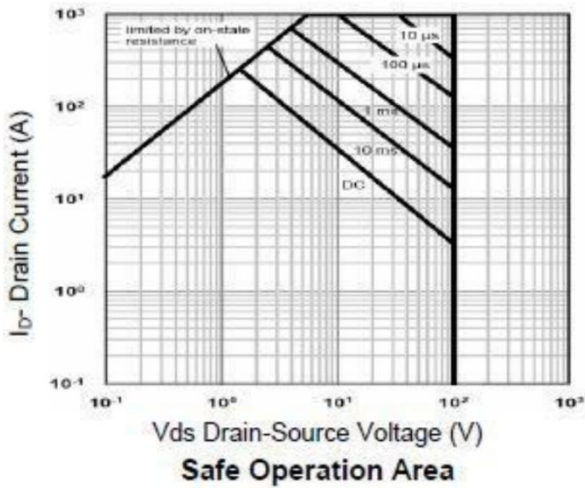
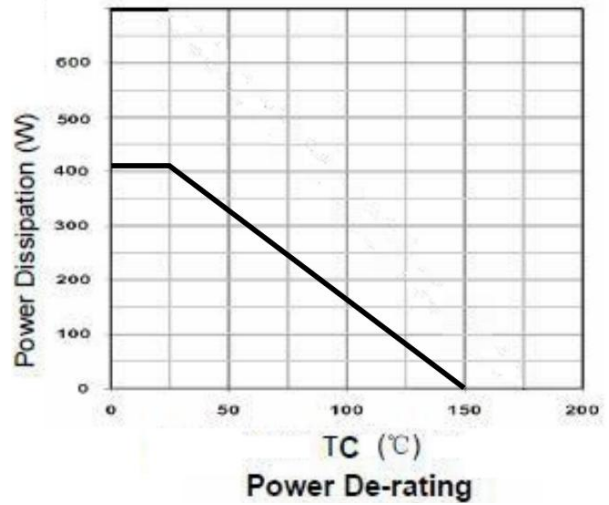
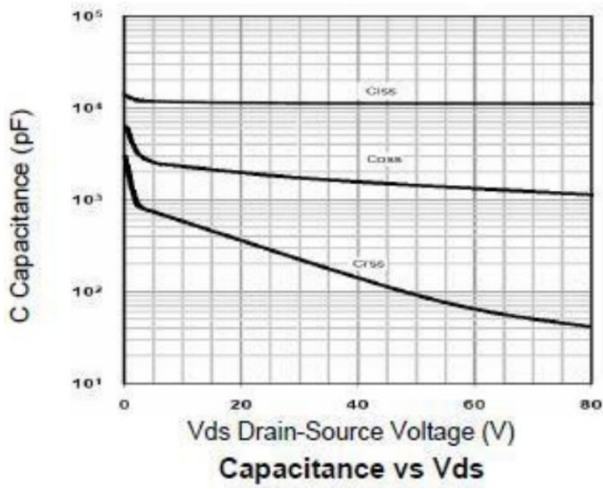
Notes:

- 1) The EAS data shows Max. rating . The test condition is $V_{DD} = 50V, V_{GS} = 10V, L = 0.5\text{mH}, R_G = 25\Omega$
- 2) The power dissipation is limited by 150°C junction temperature
- 3) Guaranteed by design, not subject to production.

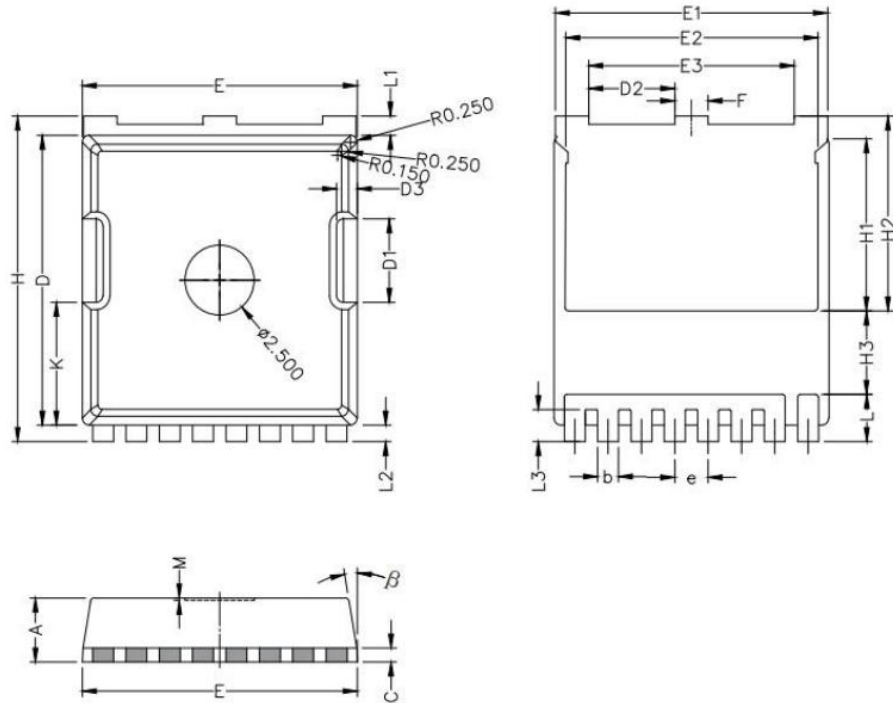
Typical Characteristics



Typical Characteristics



TOLL Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
b	0.650	0.850	0.026	0.033
C	0.508 REF.		0.020 REF.	
D	10.250	10.550	0.404	0.415
D1	2.850	3.150	0.112	0.124
E	9.750	10.050	0.384	0.396
E1	9.650	9.950	0.380	0.392
E2	8.950	9.250	0.352	0.364
E3	7.250	7.550	0.285	0.297
e	1.200 BSC.		0.047 BSC.	
F	1.050	1.350	0.041	0.053
H	11.550	11.850	0.455	0.467
H1	6.030	6.330	0.237	0.249
H2	6.850	7.150	0.270	0.281
H3	3.000 BSC.		0.118 BSC.	
L	1.550	1.850	0.061	0.073
L1	0.550	0.850	0.022	0.033
L2	0.450	0.750	0.018	0.030
M	0.080 REF.		0.003 REF.	
β	8°	12°	8°	12°
K	4.250	4.550	0.167	0.179