

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-100V	90mΩ@-10V	-4A

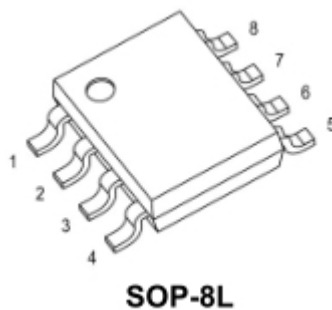
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

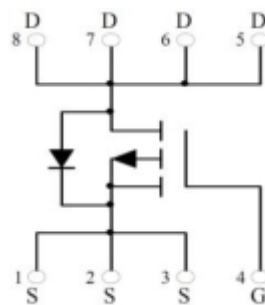
Application

- Battery Switch
- Load switch
- Power management

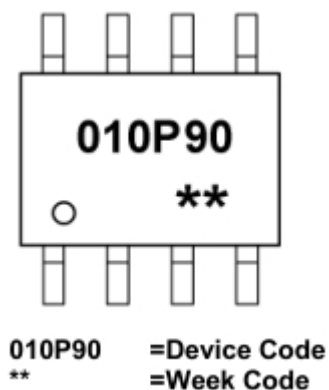
Package



Circuit diagram



Marking



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 (T _C =25°C)	I _D	-4	W
Pulsed Drain Current ¹	I _{DM}	-16	A
Power Dissipation (T _C =25°C)	P _D	3	W
Thermal Resistance from Junction to Ambient ²	R _{θJA}	41.7	°C/ W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

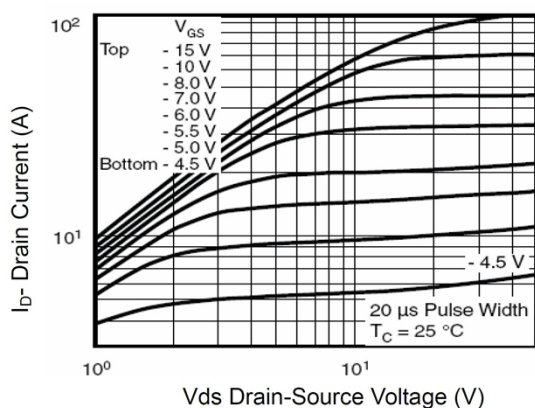
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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
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	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.8	-2.5	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -2A$		90	115	m Ω
Dynamic characteristics ⁴						
Input Capacitance	C_{iss}	$V_{DS} = -25V, V_{GS} = 0V,$ $f = 1MHz$		2134		pF
Output Capacitance	C_{oss}			567		
Reverse Transfer Capacitance	C_{rss}			135		
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	$V_{DD} = -50V, I_D = -2A$ $V_{GS} = -10V, R_{GEN} = 9.1\Omega$		16		nS
Rise Time	T_r			72		
Turn-Off Delay Time	$T_{d(off)}$			33		
Fall Time	T_f			56		
Total Gate Charge(4.5V)	Q_g	$V_{DS} = -80V, V_{GS} = -10V,$ $I_D = -2A$		60		nC
Gate-Source Charge	Q_{gS}			15		
Gate-Drain Charge	Q_{gd}			28		
Source-Drain Diode Characteristics						
Body Diode Voltage	V_{SD}	$V_{GS} = 0V, I_S = -1A$			-1.2	V

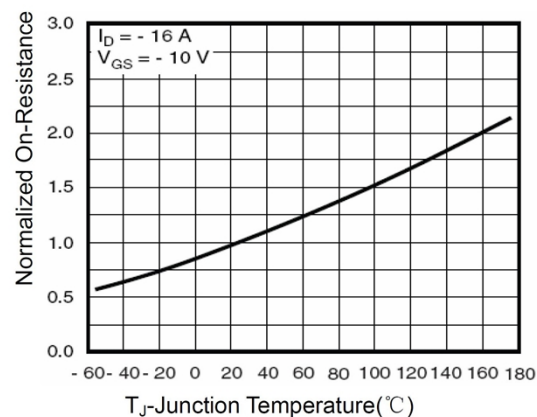
Note :

1. Repetitive rating; Pulse width limited by junction temperature.
2. Surface mounted on FR4 board, $t \leq 10s$.

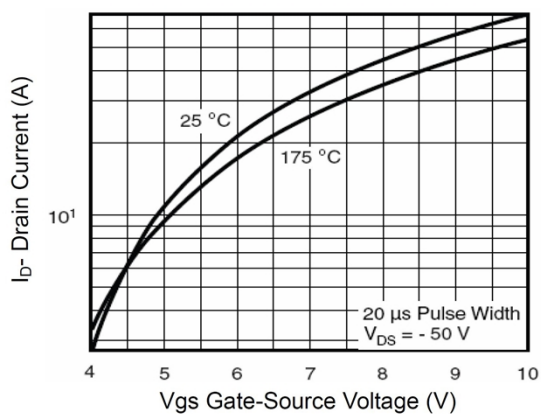
Typical Characteristics



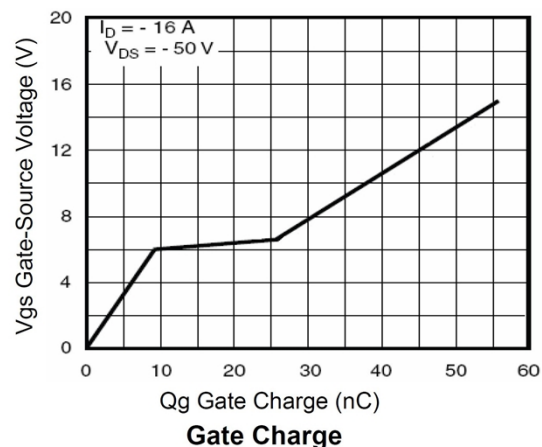
Output Characteristics



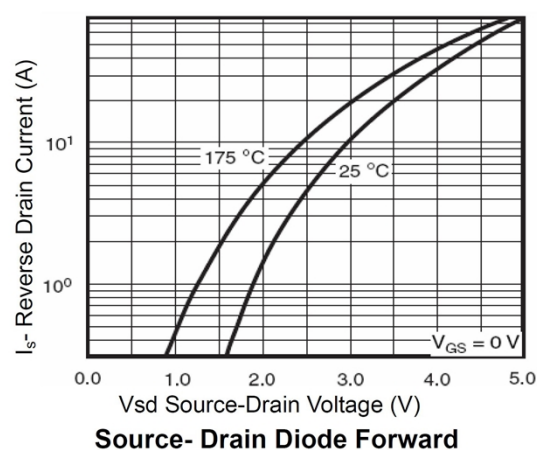
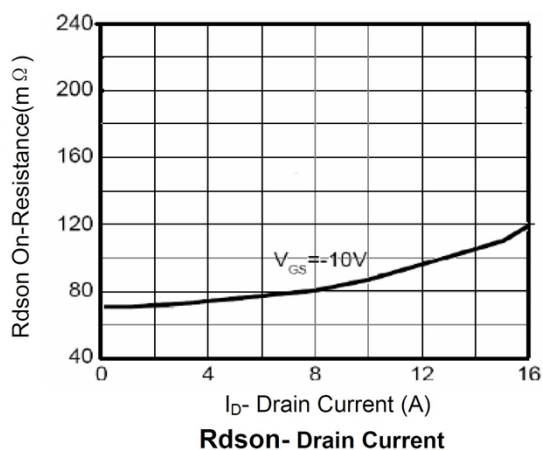
Rdson-Junction Temperature

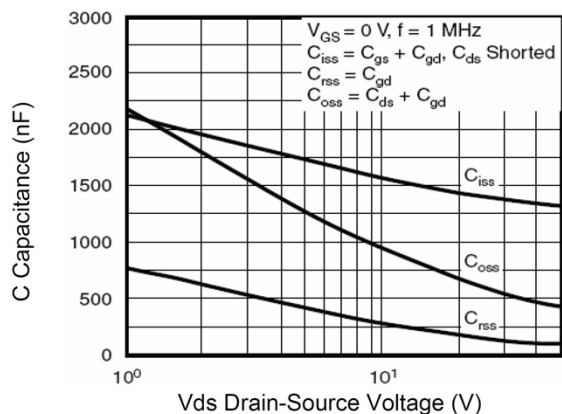


Transfer Characteristics

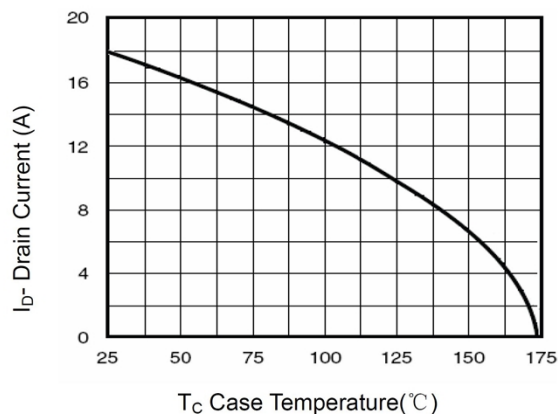


Gate Charge

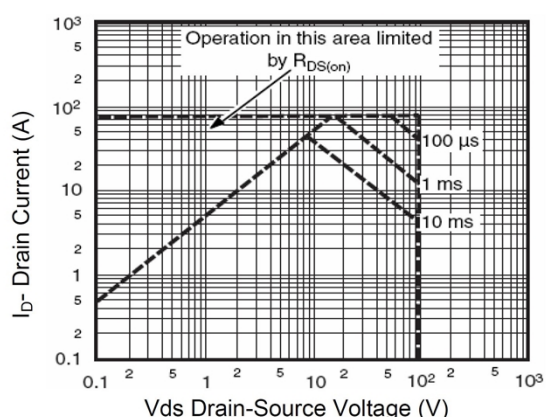




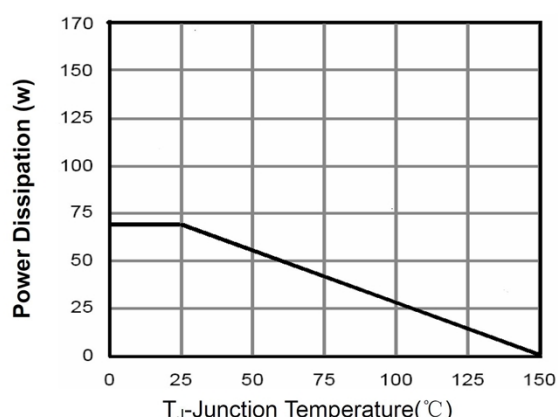
Capacitance vs Vds



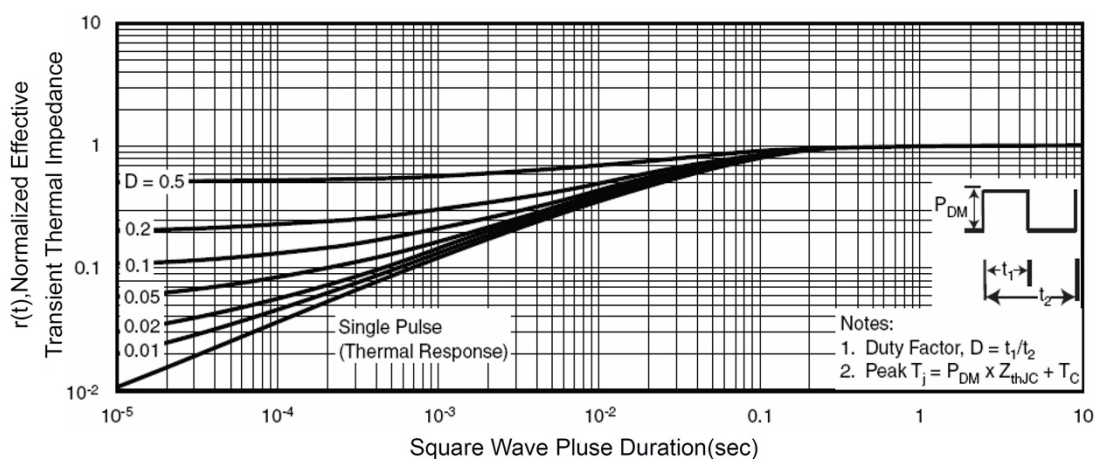
Drain Current vs Case Temperature



Safe Operation Area

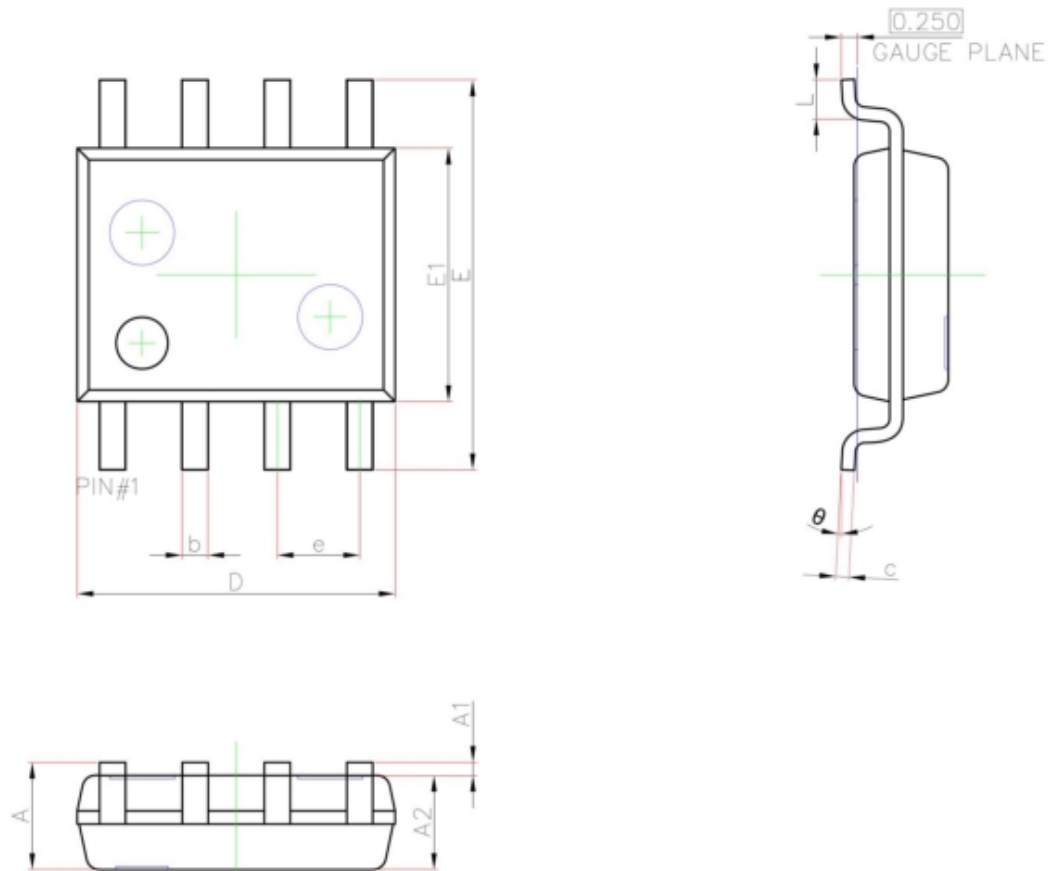


Power De-rating



Normalized Maximum Transient Thermal Impedance

SOP-8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.450	1.750	0.057	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	0.007	0.010
D	4.700	5.100	0.185	0.201
E	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°