

General Description

The MY8P035C uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a Battery protection or in other Switching application.

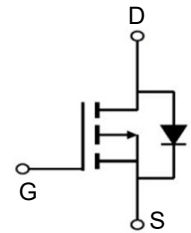
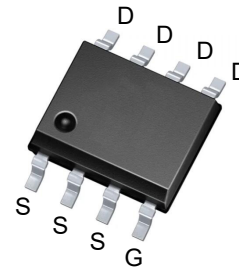


Features

V_{DSS}	-35	V
I_D	-8	A
$R_{DS(ON)}$ (at $V_{GS} = -10V$)	35	m Ω
$R_{DS(ON)}$ (at $V_{GS} = -4.5V$)	42	m Ω

Application

- Battery protection
- Load switch
- Uninterruptible power supply



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY8P035C	SOP-8	null	3000

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage ($V_{GS} = 0V$)	-35	V
V_{GS}	Gate-Source Voltage ($V_{DS} = 0V$)	± 20	V
I_D	Drain Current-Continuous($T_c = 25^\circ\text{C}$)	-20	A
	Drain Current-Continuous($T_c = 100^\circ\text{C}$)	-8	A
$I_{DM(pluse)}$	Drain Current-Continuous@ Current-Pulsed (Note 1)	-20	A
P_D	Maximum Power Dissipation($T_c = 25^\circ\text{C}$)	37.5	W
	Maximum Power Dissipation($T_c = 100^\circ\text{C}$)	19	W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-55 To 175	$^\circ\text{C}$
R_{JC}	Thermal Resistance, Junction-to-Case	4	$^\circ\text{C/W}$

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-40			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-32V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-2	-3	V
g_{FS}	Forward Transconductance	$V_{DS}=-5V, I_D=-10A$		25		S
$R_{DS(ON)}$	Drain-Source On-State Resistance	$V_{GS}=-10V, I_D=-20A$		35	46	m Ω
		$V_{GS}=-4.5V, I_D=-10A$		42	52	m Ω
C_{iss}	Input Capacitance	$V_{DS}=-25V, V_{GS}=0V,$ $f=1.0MHz$		840		pF
C_{oss}	Output Capacitance			92		pF
C_{rss}	Reverse Transfer Capacitance			60		pF
$t_{d(on)}$	Turn-on Delay Time	$V_{GS}=-10V, V_{DS}=-20V,$ $R_L=1.6, R_{GEN}=3$		5		nS
t_r	Turn-on Rise Time			12		nS
$t_{d(off)}$	Turn-Off Delay Time			20		nS
t_f	Turn-Off Fall Time			4.5		nS
Q_g	Total Gate Charge	$V_{GS}=-10V, V_{DS}=-20V, I_D=-15A$		20		nC
Q_{gs}	Gate-Source Charge			2.5		nC
Q_{gd}	Gate-Drain Charge			4.5		nC
I_{SD}	Source-Drain Current(Body Diode)				-20	A
V_{SD}	Forward on Voltage	$V_{GS}=0V, I_S=-20A$			-1.2	V

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

Typical Electrical and Thermal Characteristics

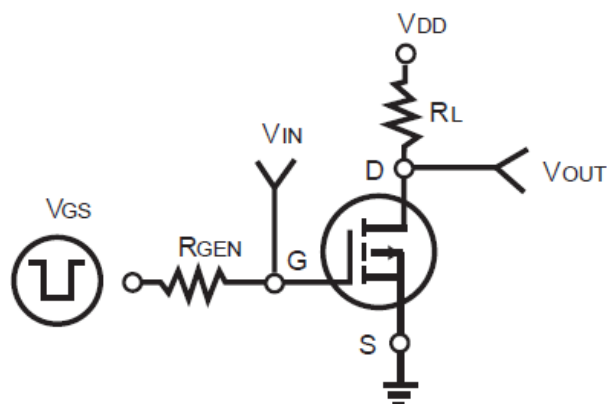


Figure1. Power Dissipation

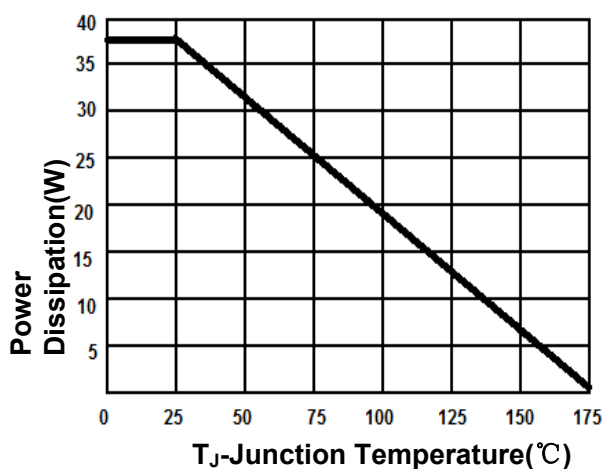


Figure3. Output Characteristics

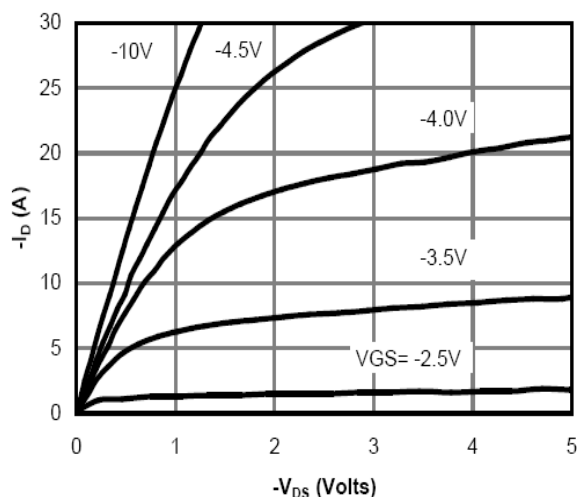


Figure5. Capacitance

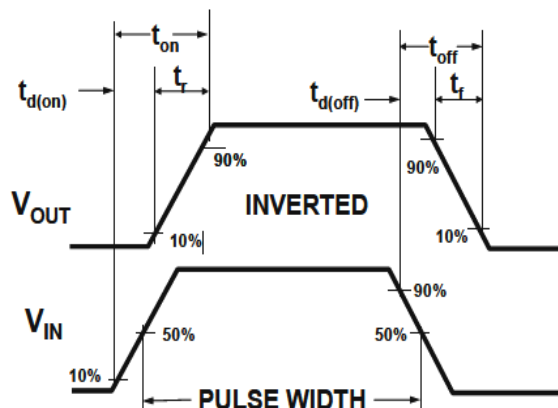


Figure2. Drain Current

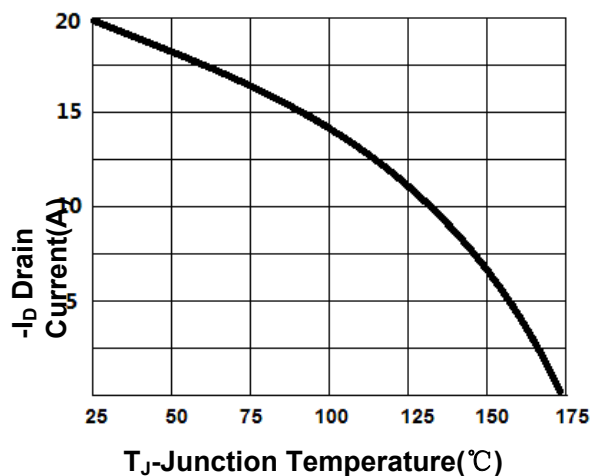


Figure4. Transfer Characteristics

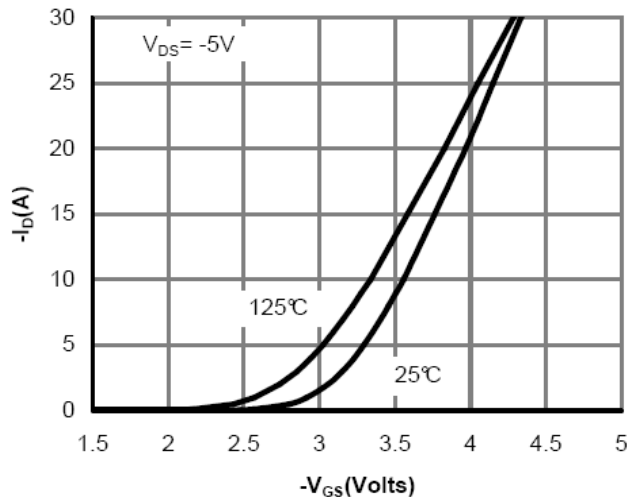


Figure6. R_{DS(ON)} vs Junction Temperature

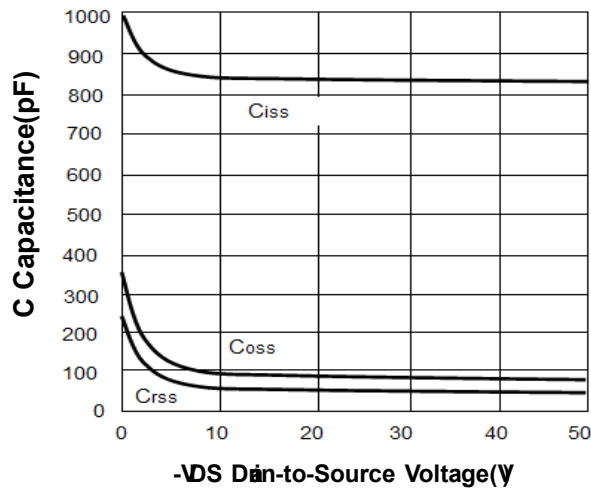


Figure7. $V_{GS(th)}$ vs Junction Temperature

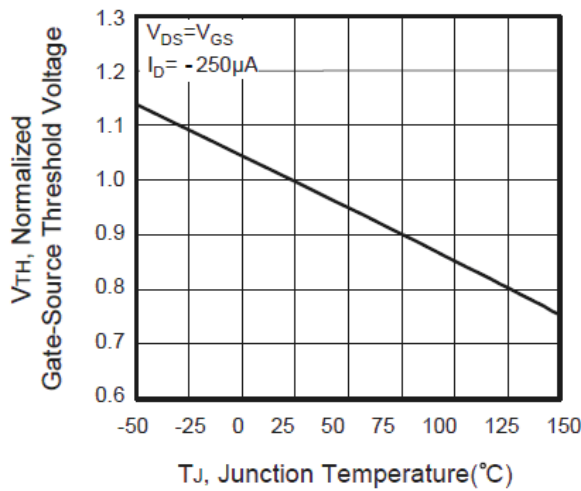


Figure8. Gate Charge Waveforms

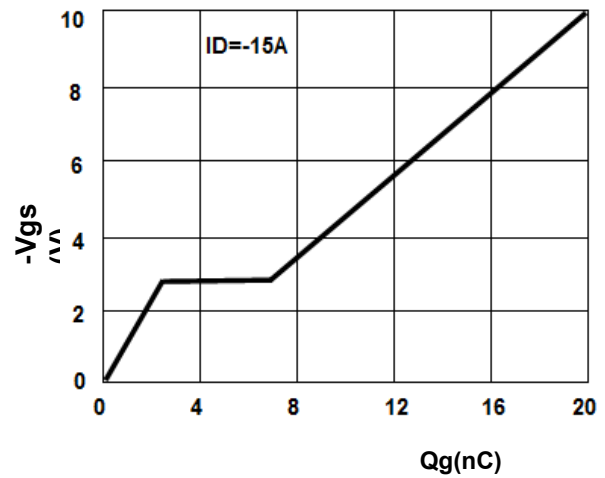
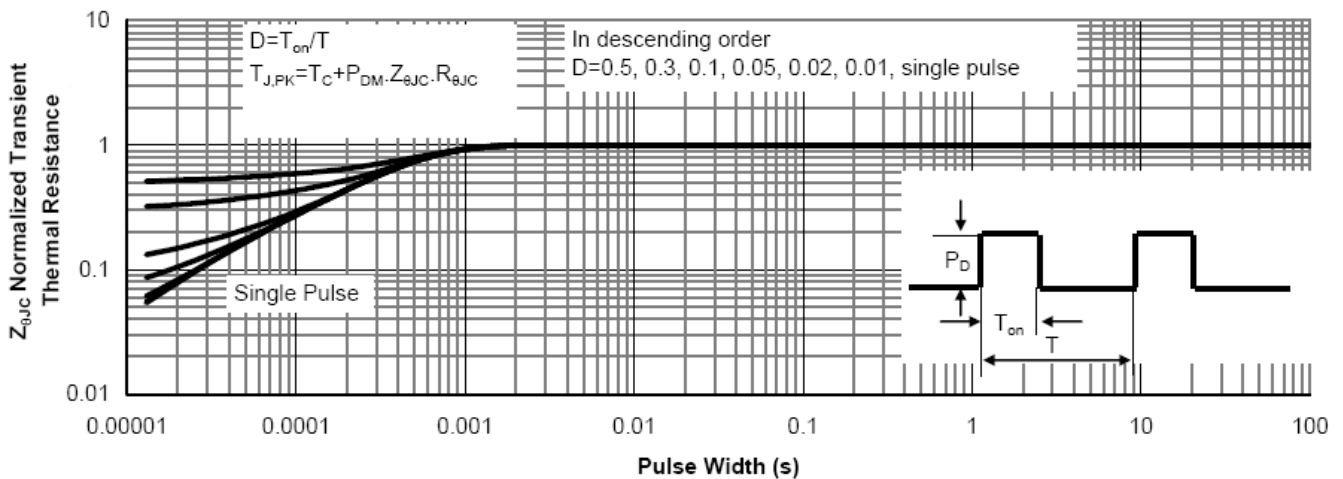
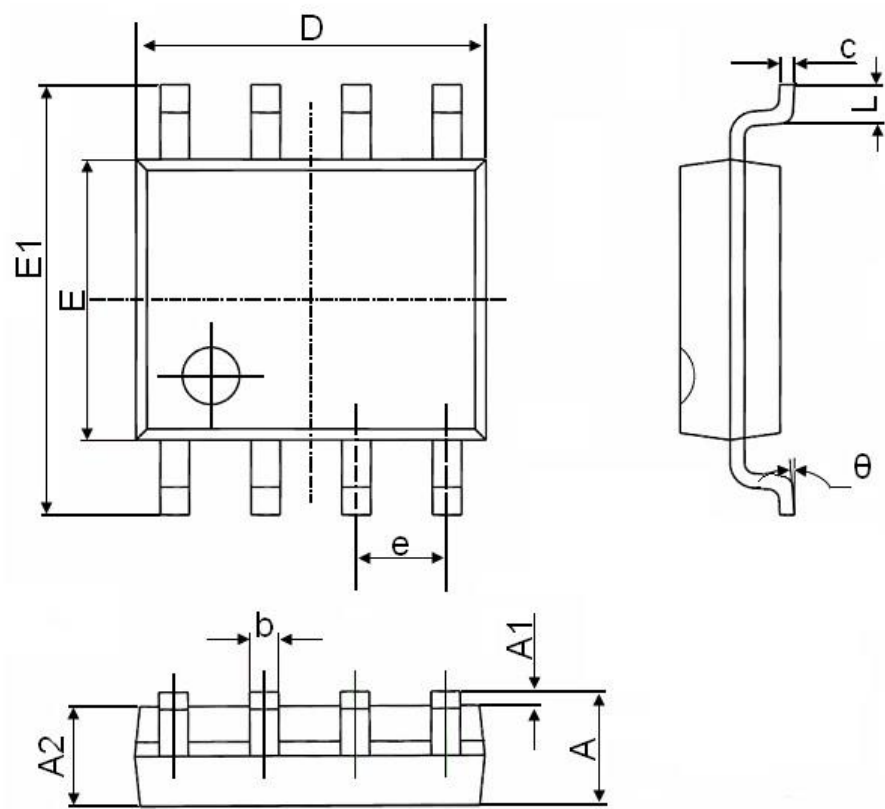


Figure9. Normalized Maximum Transient Thermal Impedance



Package Mechanical Data-SOP-8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	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	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050