

Electrical Characteristics (T_J=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Typical	Min.	Max.	Unit
DC Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	100	---	---	V
BV _{DSS} Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =1mA	---	0.09	---	V/°C
Drain-Source Leakage Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V, T _J =25°C	---	---	1	μA
		V _{DS} =80V, V _{GS} =0V, T _J =125°C	---	---	10	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
Static Characteristics						
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =10A	---	15	18	mΩ
		V _{GS} =4.5V, I _D =5A	---	18	24	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250μA	1	1.6	2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		---	-4.54	---	mV/°C
Forward Transconductance	g _{fs}	V _{DS} =10V, I _D =3A	---	10	---	S
Dynamic Characteristics						
Total Gate Charge ^{2, 3}	Q _g	V _{DS} =80V, V _{GS} =10V, I _D =5A	---	66.7	100	nC
Gate-Source Charge ^{2, 3}	Q _{gs}		---	13.4	26	
Gate-Drain Charge ^{2, 3}	Q _{gd}		---	14.6	28	
Turn-On Delay Time ^{2, 3}	T _{d(on)}	V _{DD} =50V, V _{GS} =10V, R _G =3.3Ω, I _D =1A	---	23	46	nS
Rise Time ^{2, 3}	T _r		---	11	22	
Turn-Off Delay Time ^{2, 3}	T _{d(off)}		---	57	114	
Fall Time ^{2, 3}	T _f		---	26	58	
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, F=1MHz	---	4812	7200	pF
Output Capacitance	C _{oss}		---	220	330	
Reverse Transfer Capacitance	C _{rss}		---	107	160	
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, F=1MHz	---	1.6	---	Ω
Other Electrical Characteristics						
Continuous Source Current	I _S	V _{GS} =V _D =0V, Force Current	---	---	15	A
Pulsed Source Current	I _{SM}		---	---	30	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =1A, T _J =25°C	---	---	1	V

Note:

1. Repetitive Rating: Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed, pulse width ≤ 300 μs, duty cycle ≤ 2%.
3. Essentially independent of operating temperature.

Typical Electrical and Thermal Characteristic Curves

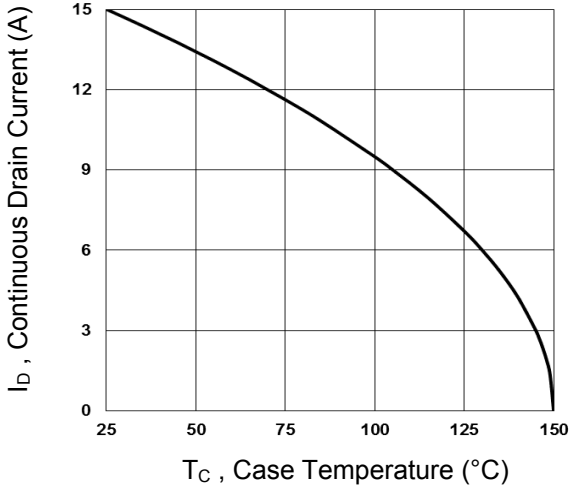


Fig.1 Continuous Drain Current vs. T_C

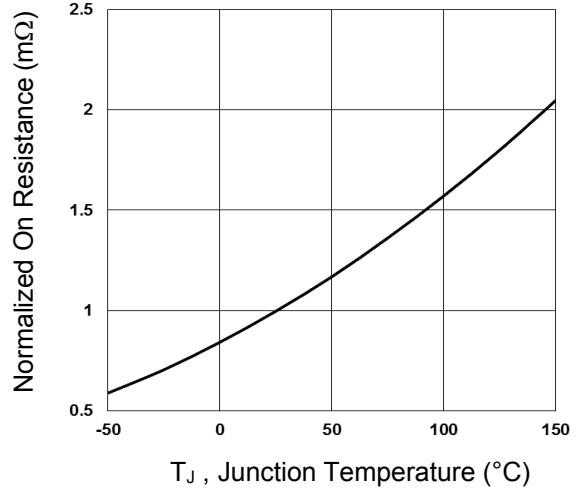


Fig.2 Normalized $R_{DS(ON)}$ vs. T_J

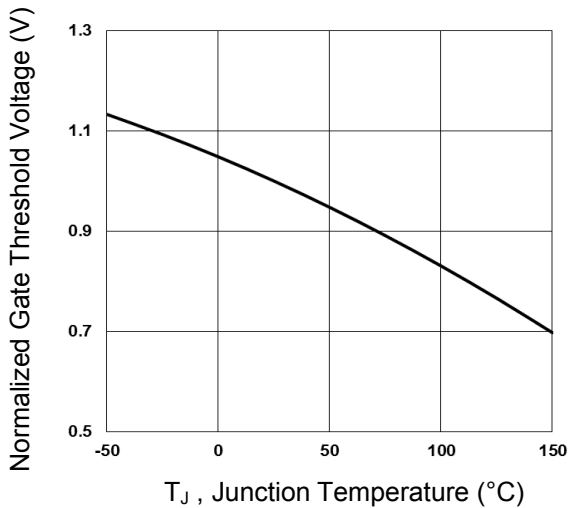


Fig.3 Normalized V_{th} vs. T_J

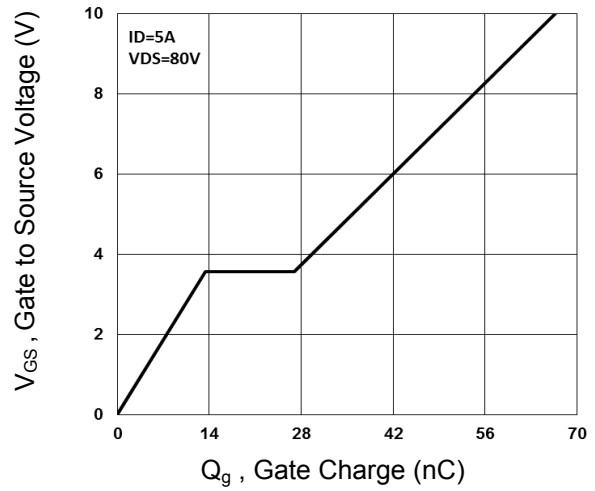


Fig.4 Gate Charge Characteristics

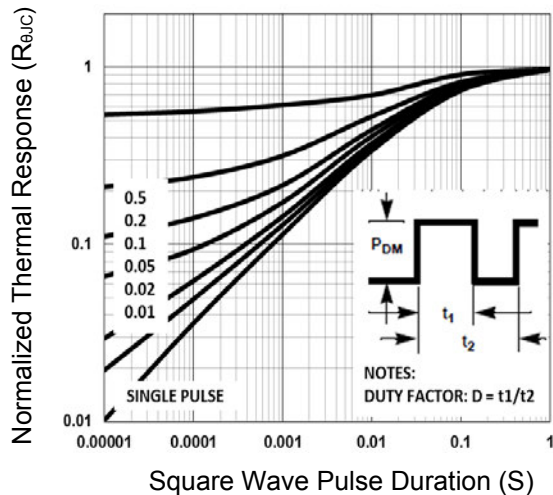


Fig.5 Normalized Transient Impedance

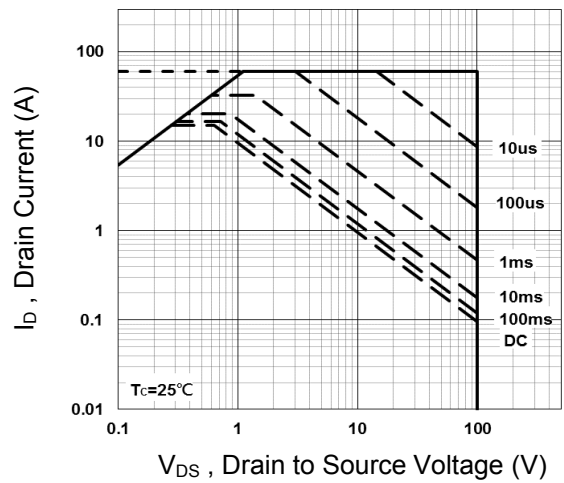


Fig.6 Maximum Safe Operation Area

Typical Electrical and Thermal Characteristic Curves

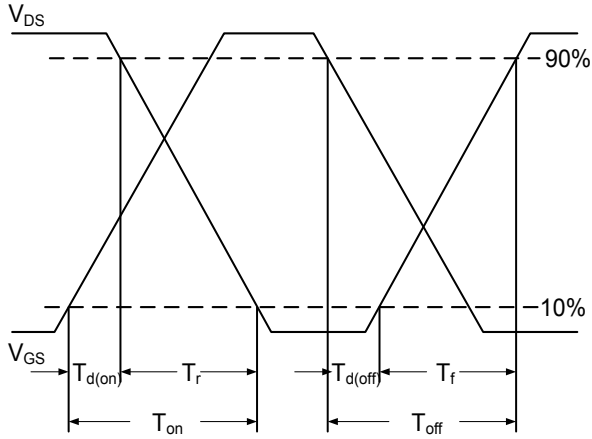


Fig.7 Switching Time Waveform

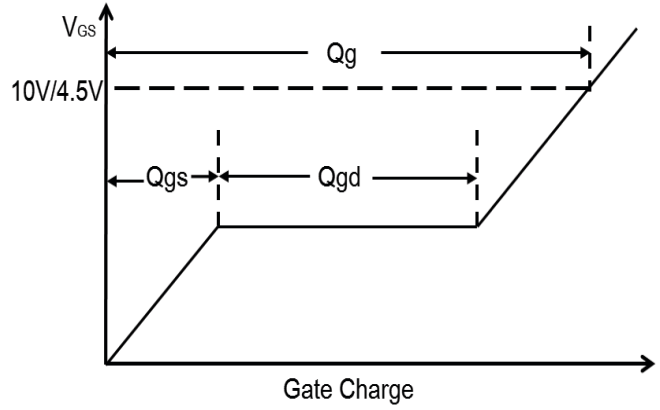
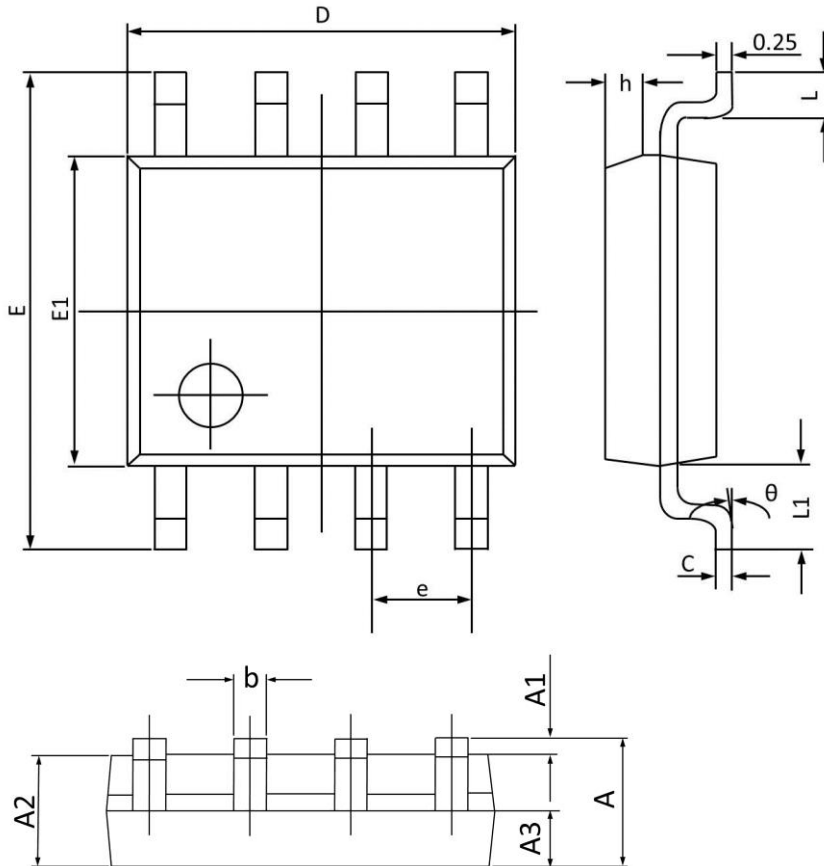


Fig.8 Gate Charge Waveform

Package Outline Dimensions

SOP-8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.068
A1	0.100	0.250	0.004	0.009
A2	1.300	1.500	0.052	0.059
A3	0.600	0.700	0.024	0.027
b	0.390	0.480	0.016	0.018
c	0.210	0.260	0.009	0.010
D	4.700	5.100	0.186	0.200
E	5.800	6.200	0.229	0.244
E1	3.700	4.100	0.146	0.161
e	1.270(BSC)		0.050(BSC)	
h	0.250	0.500	0.010	0.019
L	0.500	0.800	0.019	0.031
L1	1.050(BSC)		0.041(BSC)	
θ	0°	8°	0°	8°