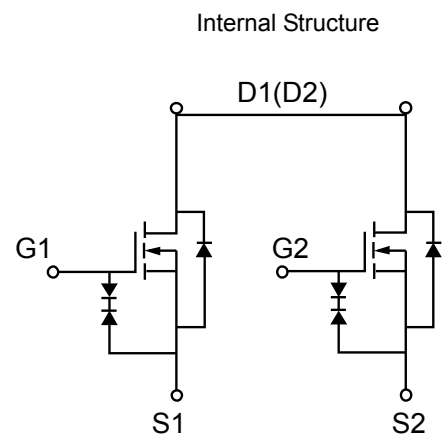
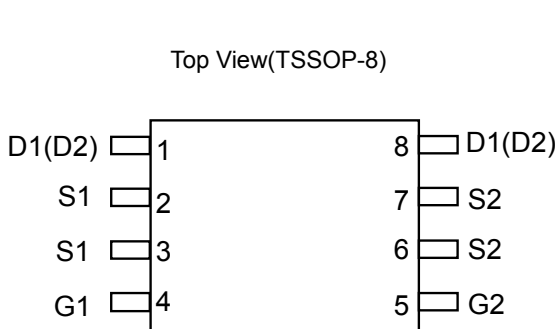


Description

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V _{DS} (V)	R _{DS(on)} (mΩ)	I _D (A)
20	16@ VGS=4.5V	7



Absolute maximum rating@25°C

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current (T _J =150°C)	I _D	T _A =25°C	7
		T _A =70°C	4.6
Pulsed Drain Current	I _{DM}	60	A
Maximum Power Dissipation	P _D	T _A =25°C	1.3
		T _A =70°C	0.8
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Typical	Maximum	Units
Maximum Junction-to-Ambient	R _{θJA}	76	95	°C/W
Maximum Junction-to-Ambient		Steady-State	118	150
Maximum Junction-to-Lead	R _{θJL}	54	68	°C/W

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A, V_{GS} = 0V$	20		-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 10V$	-	-	± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.75	1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 7A$		16	20	m Ω
		$V_{GS} = 2.5V, I_D = 5A$		20	24	
		$V_{GS} = 1.8V, I_D = 2A$		23	35	
Total Gate Charge	Q_g	$V_{GS} = 10V, V_{DS} = 10V, I_D = 7.0A$		16.2	21	nC
Total Gate Charge	Q_g	$V_{GS} = 4.5V, V_{DS} = 10V, I_D = 7.0A$		7.7	10	
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			2.7		
Input Capacitance	C_{ISS}	$V_{GS} = 0V, V_{DS} = 10V, f = 1MHz$	-	620	780	pF
Output Capacitance	C_{OSS}		-	125		pF
Reverse Transfer Capacitance	C_{RSS}		-	64		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = 10V, R_{GEN} = 3\Omega, V_{GS} = 10V, R_L = 1.7\Omega$	-	236		ns
Turn-Off Delay Time	$t_{d(off)}$		-	9.5		μs
Turn-On Rise Time	t_r		-	448		ns
Turn-On Fall Time	t_f		-	4.1		μs
Body Diode Reverse Recovery Time	t_{rr}	$I_F = 7A, di/dt = 100A/\mu s$		25	33	ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = 7A, di/dt = 100A/\mu s$		9		nC
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 1.0A$		0.65	1.0	V
Maximum Body-Diode Continuous Current	I_S				1.3	A

Typical Characteristics

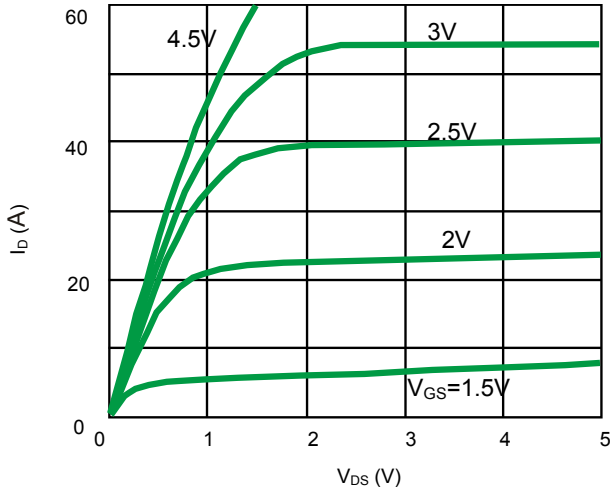


Fig 1. On-Region Characteristics

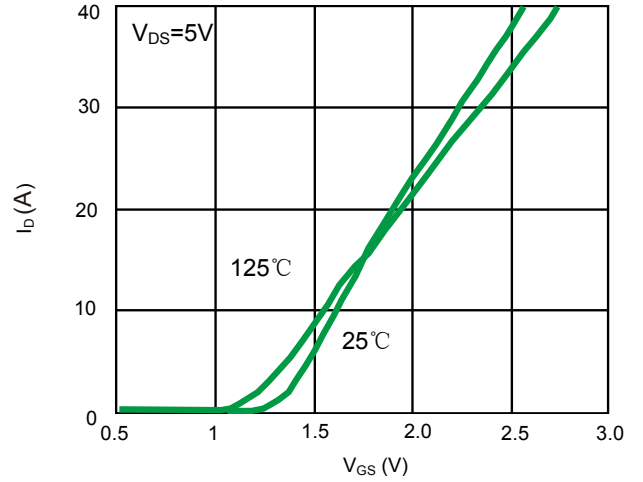


Fig 2. Transfer Characteristics

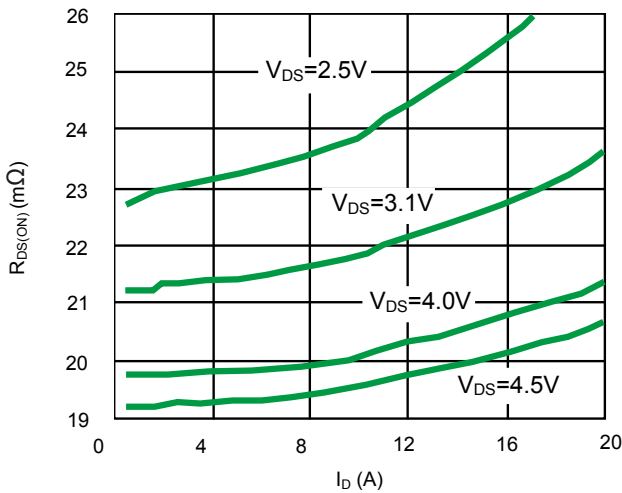


Fig 3. On-Resistance vs. Drain Current and gate Voltage

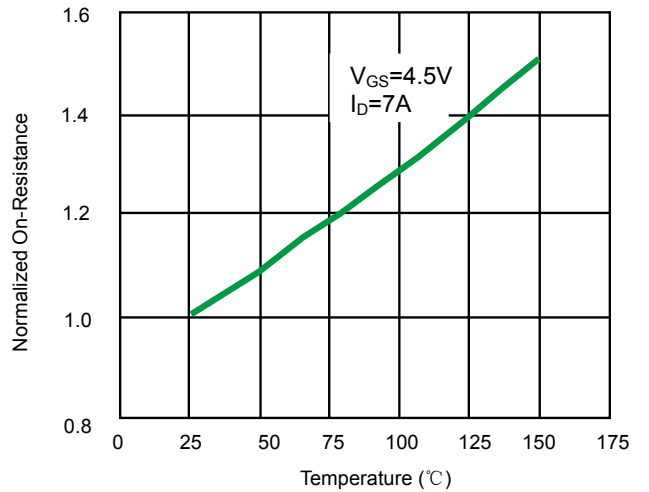


Fig 4. On-Resistance vs. Junction Temperature

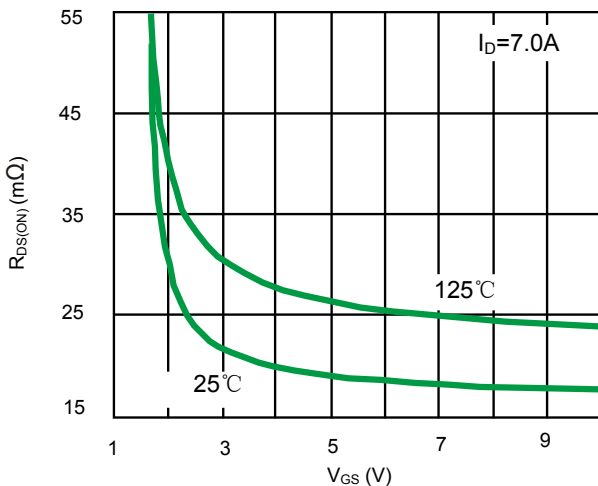


Fig 5. On-Resistance vs. Gate-Source Voltage

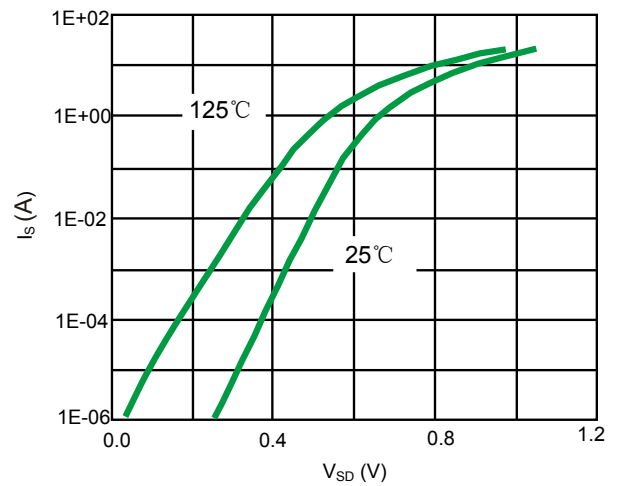


Fig 6. Body-Diode Characteristics

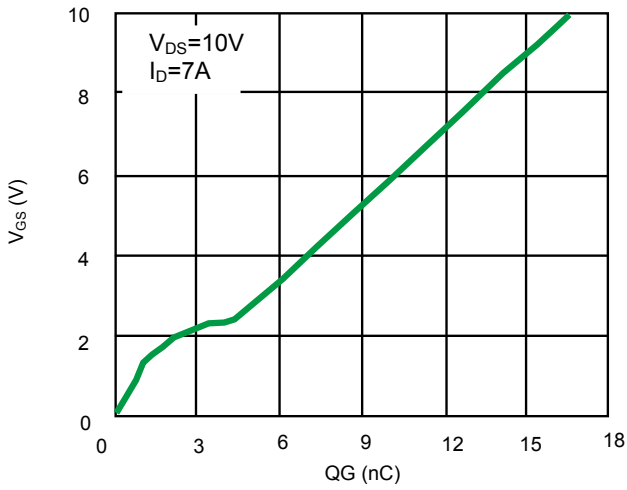


Fig 7. Gate Charge Characteristics

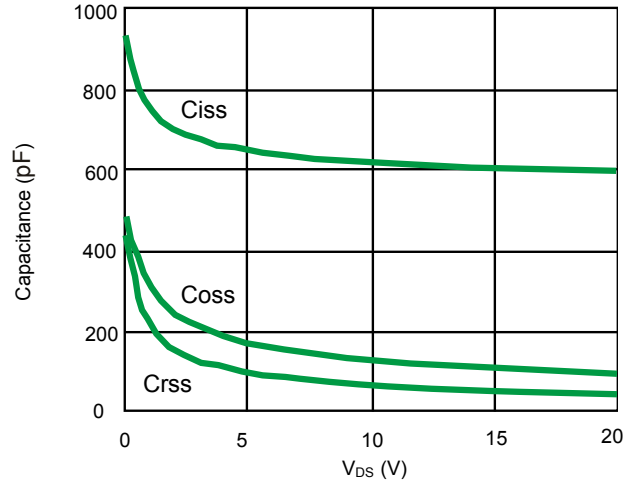


Fig 8. Capacitance Characteristics

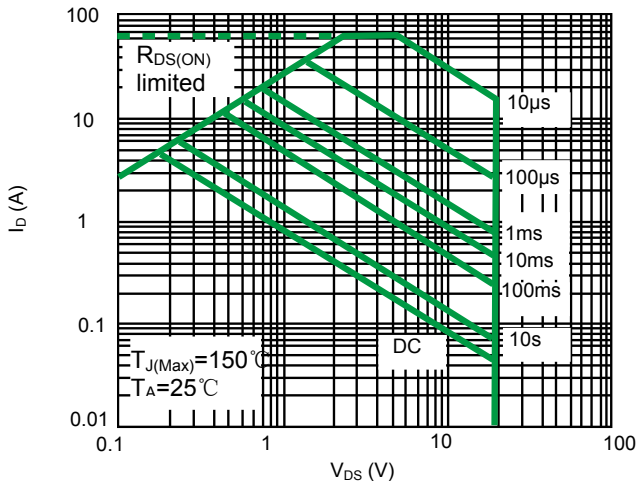


Fig 9. Maximum Forward Biased Safe Operating Area

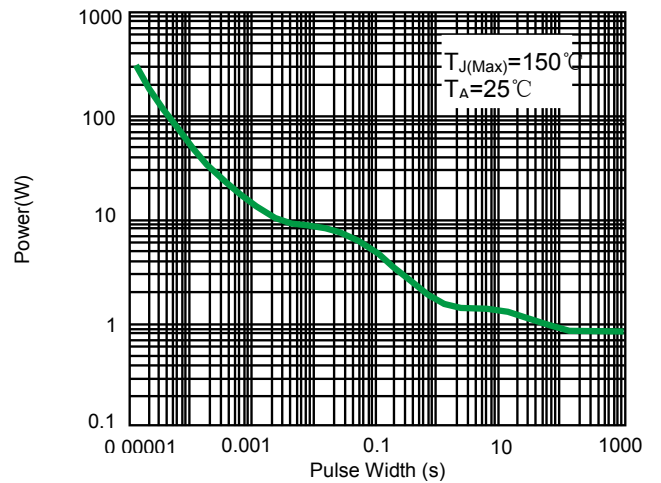


Fig 10. Single Pulse Power Rating Junction-to-Ambient

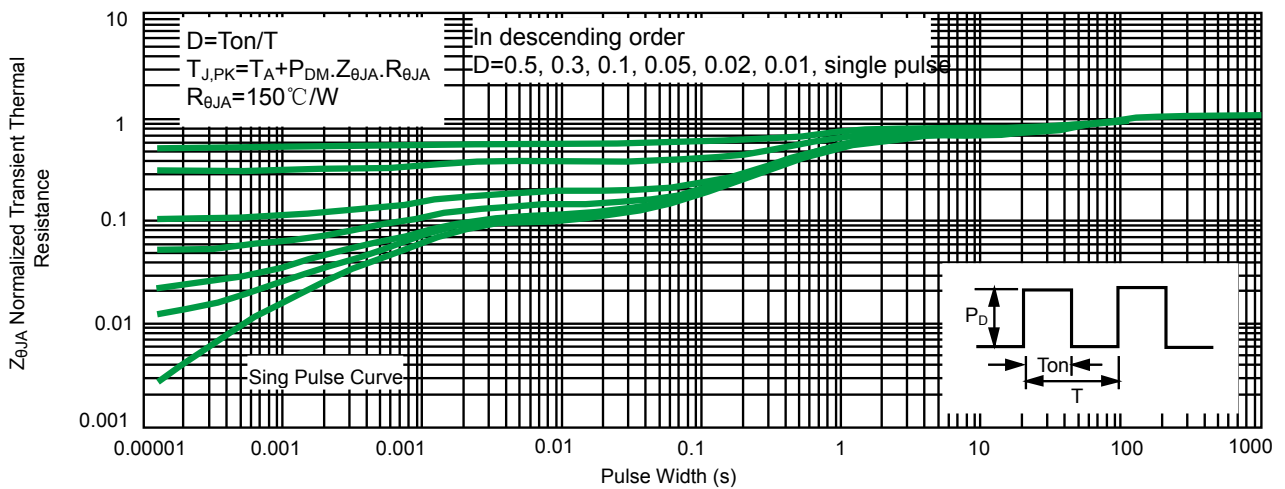
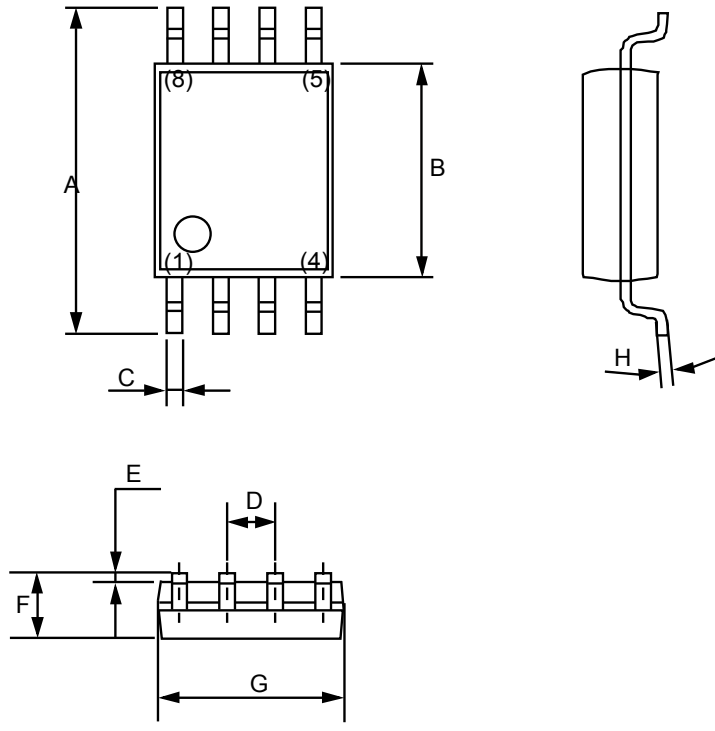



Fig 11. Normalized Maximum Transient Thermal Impedance

Product dimension(TSSOP-8)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	6.250	6.550	0.246	0.258
B	4.300	4.500	0.169	0.177
C	0.190	0.300	0.007	0.012
D	0.65(BSC)		0.026(BSC)	
E	0.020	0.150	0.001	0.006
F	0.800	1.000	0.031	0.039
G	2.900	3.100	0.114	0.122
H	0.090	0.200	0.004	0.008


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