

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$	-	-	-1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.4	-	-1.2	V
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$	-	-	± 10	μA
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-0.3A$	-	-	450	m Ω
		$V_{GS}=-2.5V, I_D=-0.3A$	-	-	590	
Total Gate Charge	Q_g	$V_{DS}=-10V, I_D=-0.45A,$ $V_{GS}=-4.5V$	-	0.9	-	nC
Gate-Source Charge	Q_{gs}		-	0.16	-	
Gate-Drain Charge	Q_{gd}		-	0.27	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-10V, R_{GEN}=6\Omega,$ $V_{GS}=-4.5V, I_D=-0.45A$	-	45	-	nS
Turn-On Rise Time	t_r		-	140	-	
Turn-Off Delay Time	$t_{d(off)}$		-	1500	-	
Turn-Off Fall Time	t_f		-	2100	-	
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V,$ $F=1MHz$	-	74.5	-	PF
Output Capacitance	C_{oss}		-	10.8	-	
Reverse Transfer Capacitance	C_{rss}		-	10.2	-	
Continuous Diode Forward Current	I_{SD}	$V_G=V_D=0V,$ Force Current	-	-	-0.5	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=-0.5A$	-	-	-1.2	V

Note :

1. The value of $R\theta JA$ is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with $T_A=25C$. The value in any given application depends on the user's specific board design.
2. Repetitive rating, pulse width limited by junction temperature .
3. The current rating is based on the $t < 10s$ junction to ambient thermal resistance rating.

Typical Electrical and Thermal Characteristic Curves

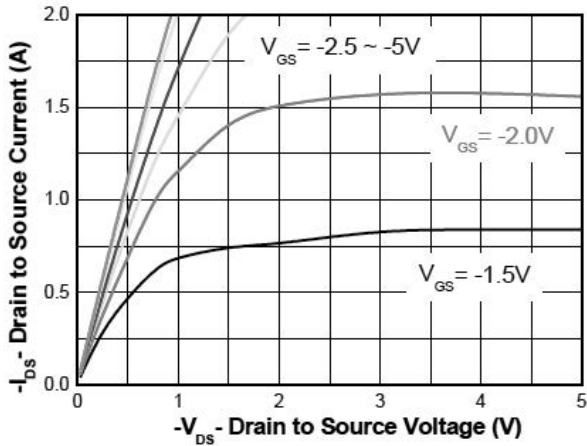


Figure 1. Output Characteristics

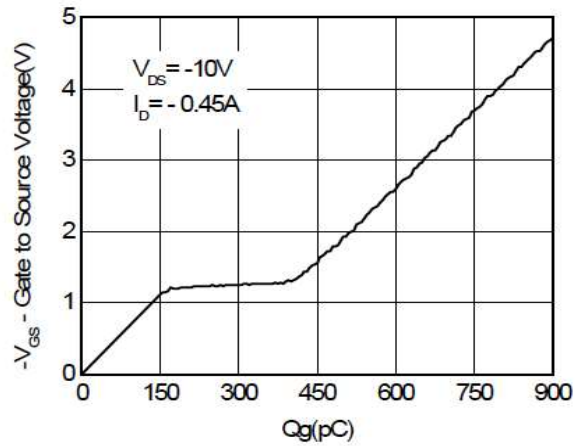


Figure 2. Gate Charge

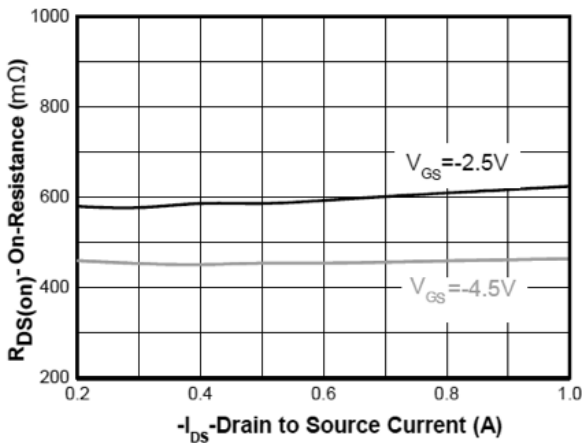


Figure 3. On-Resistance vs. Drain Current

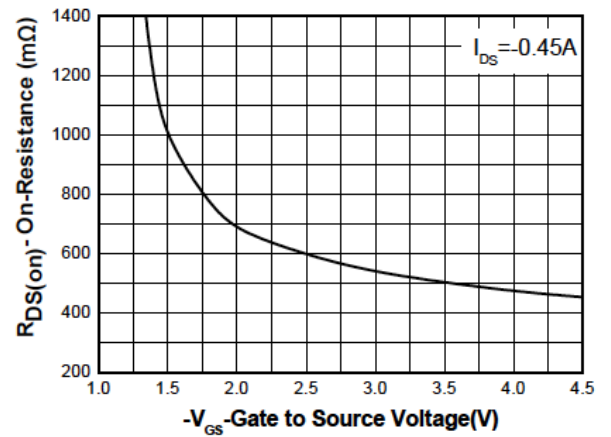


Figure 4. On-Resistance vs. Gate-to-Source Voltage

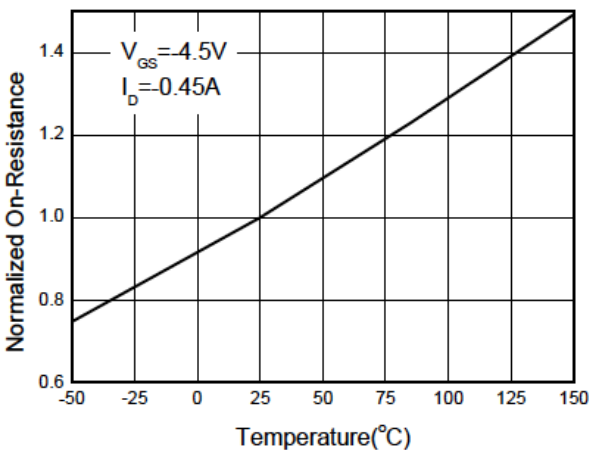


Figure 5. On-Resistance vs. Junction Temperature

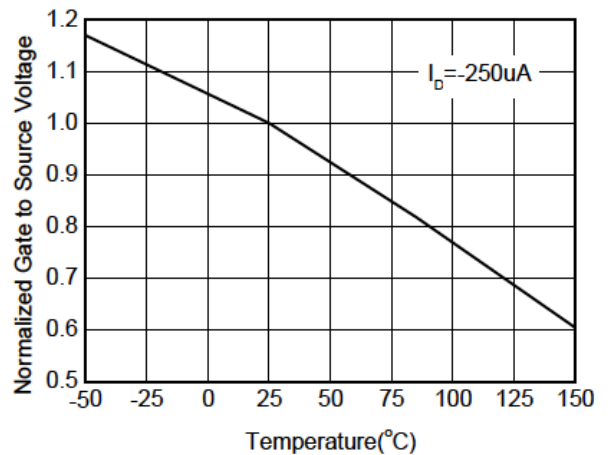


Figure 6. Threshold Voltage vs. Temperature

Typical Electrical and Thermal Characteristic Curves

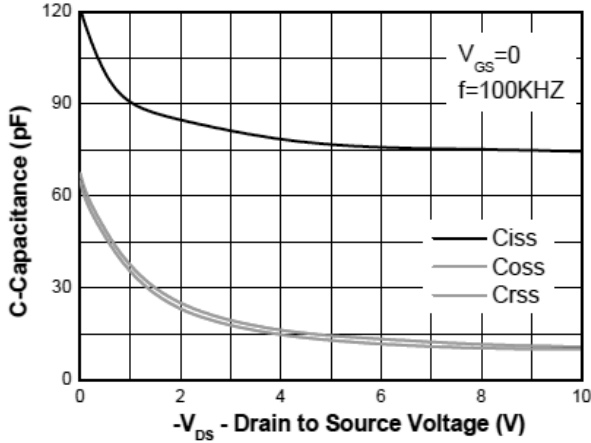


Figure 7. Capacitance

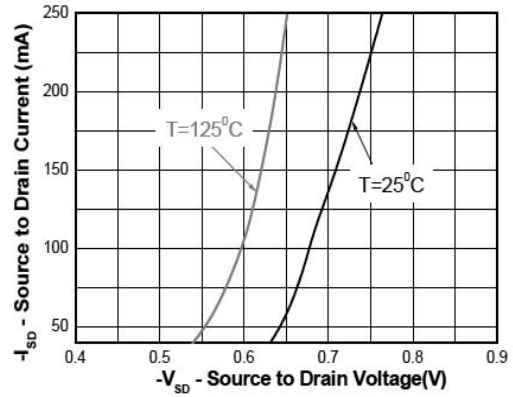


Figure 8. Body Diode Forward Voltage

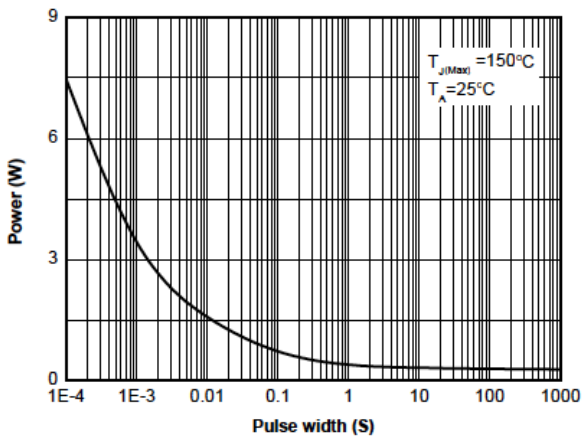


Figure 9. Single Pulse Power

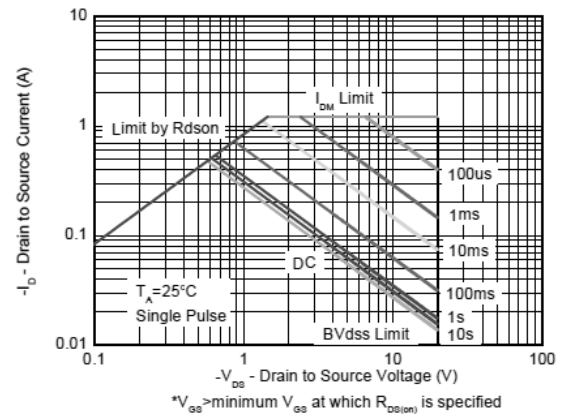


Figure 10. Safe Operating Power

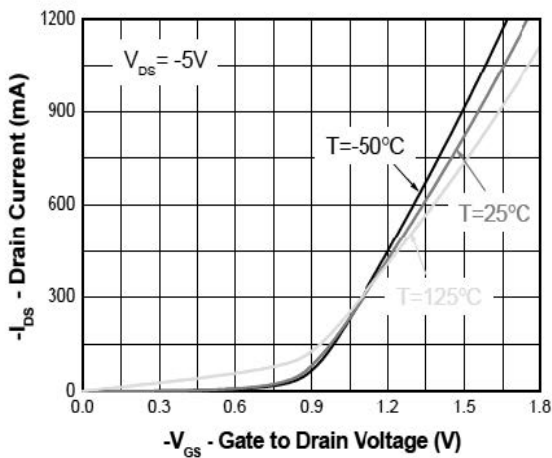


Figure 11. Transfer Characteristics

Typical Electrical and Thermal Characteristic Curves

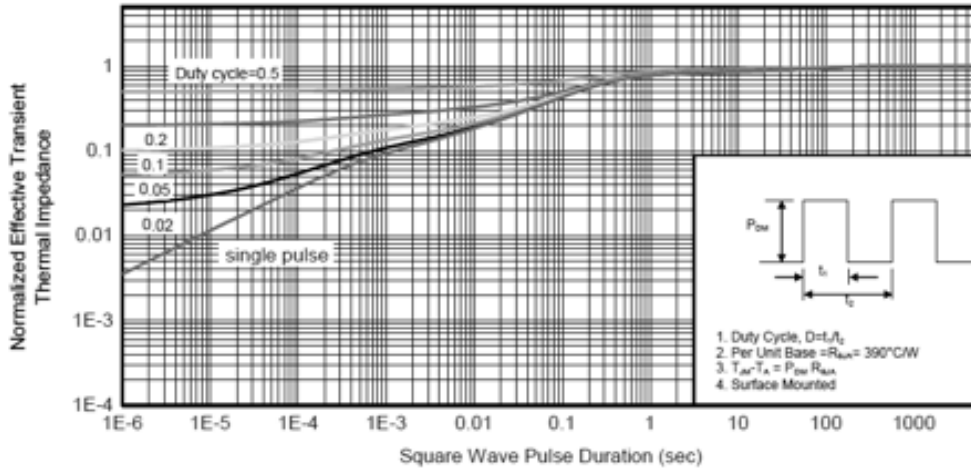
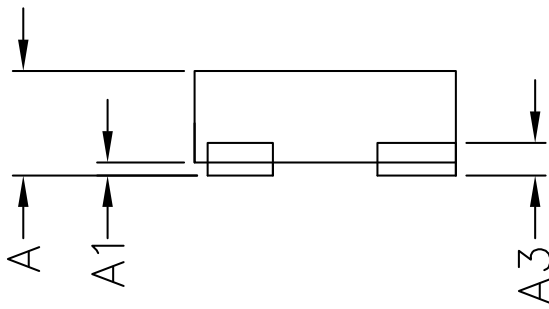
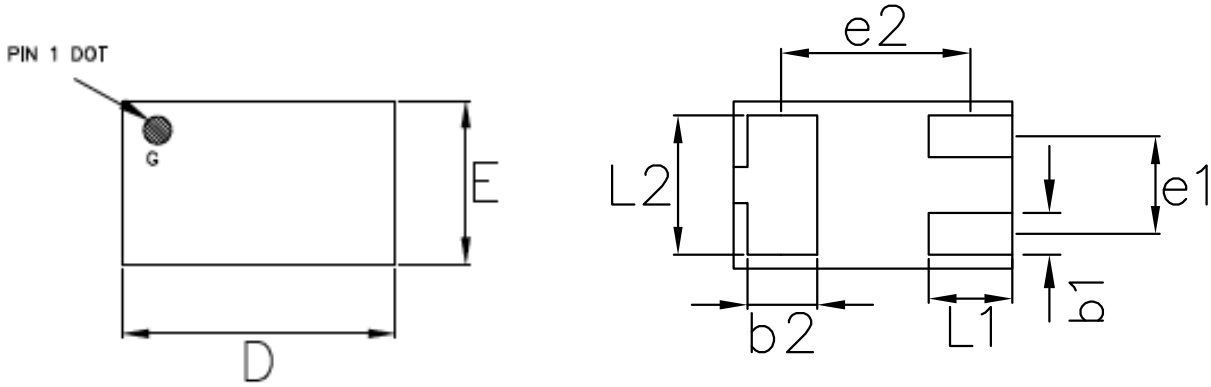


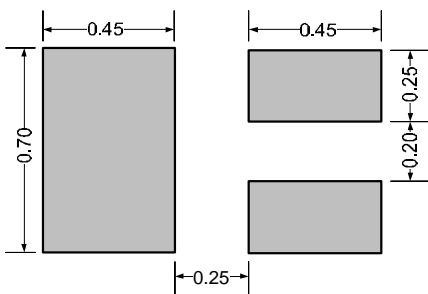
Figure 12. Transient Thermal Response (Junction-to-Ambient)

Package Outline Dimensions (SOT-883)



Package Outline Dimensions (MM)			
Package	SOT-883		
REF.	MIN.	TYP.	MAX
A	0.40	-	0.50
A1	0.001	-	0.05
A3	0.125 REF.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b1	0.10	0.15	0.20
b2	0.20	0.25	0.30
L1	0.20	0.30	0.40
L2	0.40	0.50	0.60
e1	0.35 BSC		
e2	0.675 BSC		

Recommended Pad Layout



(Unit in MM)

Order Information

MPN	Package	Marking Code	Carrier	Quantity	HSF Status
GSFW02005	SOT-883	49	Tape & Reel	10000/Reel	RoHS Compliant