ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V,V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±5V,V_{DS}=0V			100	nA
		V_{GS}=±10V,V_{DS}=0V			150	nA
		V_{GS}=±20V,V_{DS}=0V			10	uA
Gate-Source Breakdown Voltage	BV_{GSO}	V_{DS}=0V, I_G=±250uA	±20			V
ON CHARACTERISTICS (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1		2.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=0.5A			3	Ω
		V_{GS}=5V, I_D=0.05A			3.5	
Forward Transconductance	g_{FS}	V_{DS}=10V,I_D=0.2A	0.08			S
DYNAMIC CHARACTERISTICS (Note4)						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V, F=1.0MHz		30		PF
Output Capacitance	C_{oss}			6		PF
Reverse Transfer Capacitance	C_{rss}			3		PF
SWITCHING CHARACTERISTICS (Note 4)						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=30V,V_{GS}=10V, R_{GEN}=10Ω，R_L=150Ω I_D=0.2A			25	nS
Turn-Off Delay Time	$t_{d(off)}$				35	nS
Total Gate Charge	Q_g	V_{DS}=10V,I_D=0.25A,V_{GS}=4.5V		0.4	0.6	nC
DRAIN-SOURCE DIODE CHARACTERISTICS						
Diode Forward Voltage (Note 3)	V_{SD}	V_{GS}=0V,I_S=0.2A			1.3	V

NOTES:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

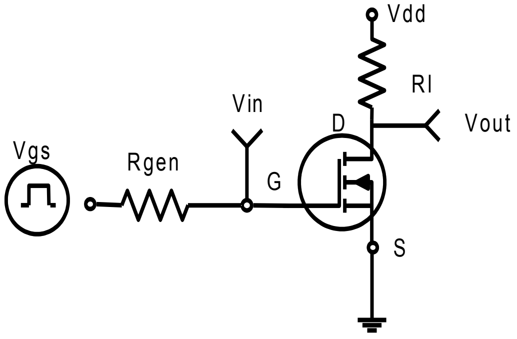


Figure 1. Switching Test Circuit

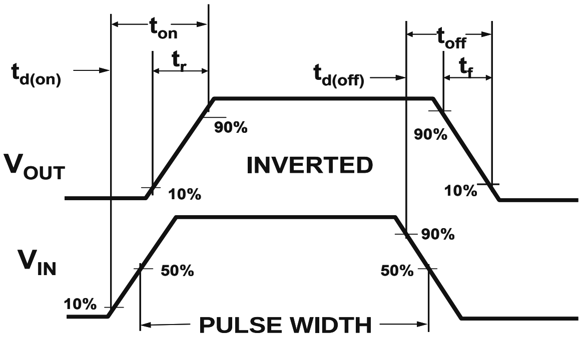


Figure 2. Switching Waveforms

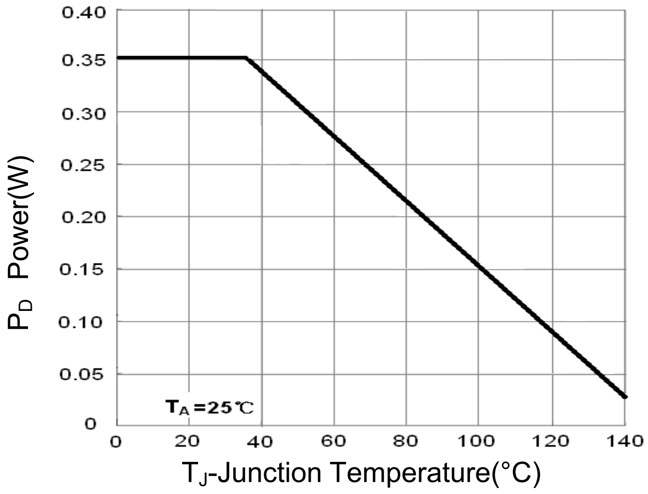


Figure 3. Power Dissipation

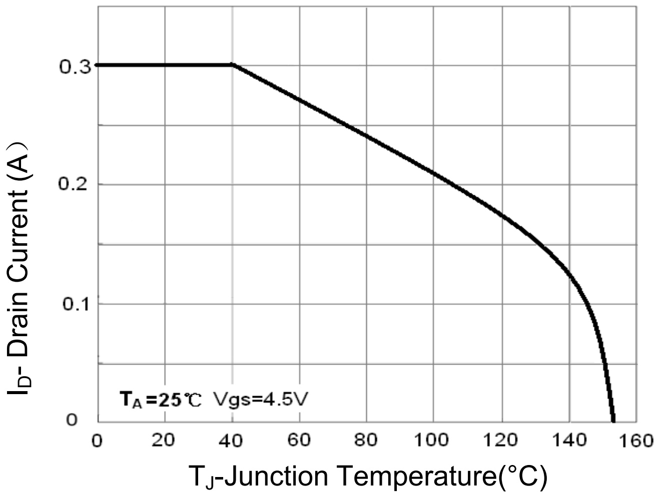


Figure 4. Drain Current

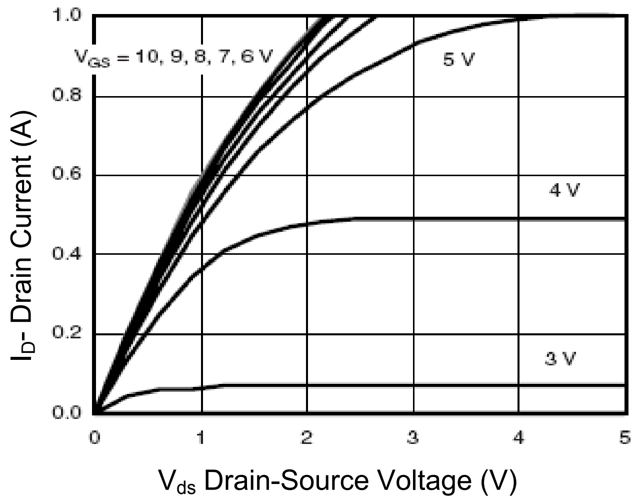


Figure 5. Output Characteristics

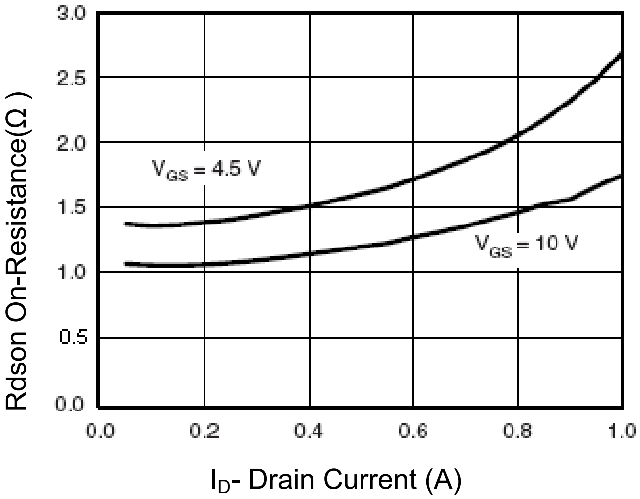


Figure 6. Drain-Source On-Resistance

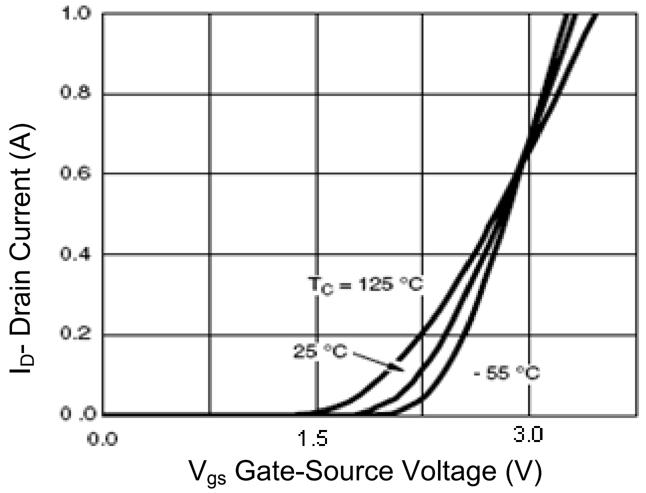


Figure 7. Transfer Characteristics

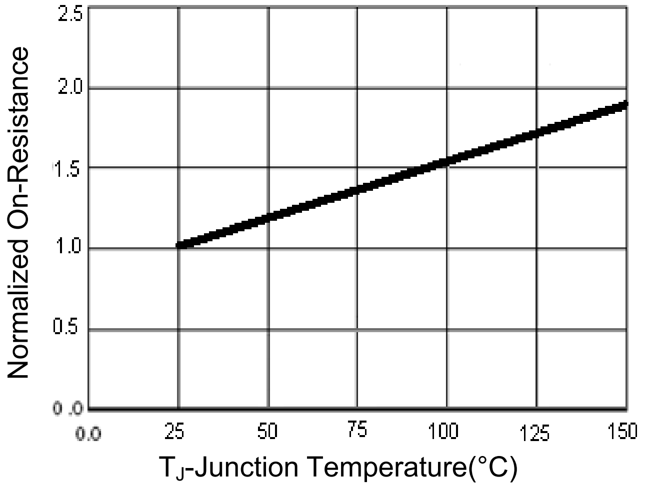


Figure 8. Drain-Source On-Resistance

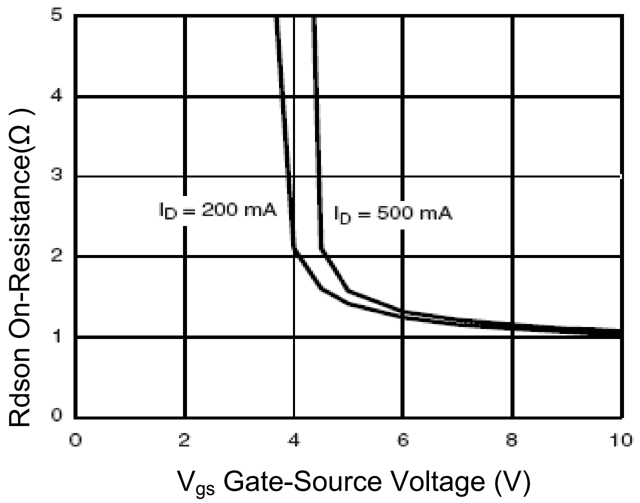


Figure 9. R_{dson} vs V_{gs}

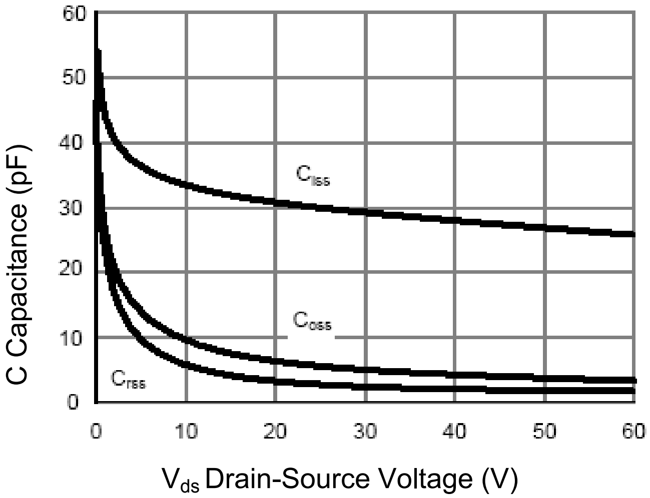


Figure 10. Capacitance vs V_{ds}

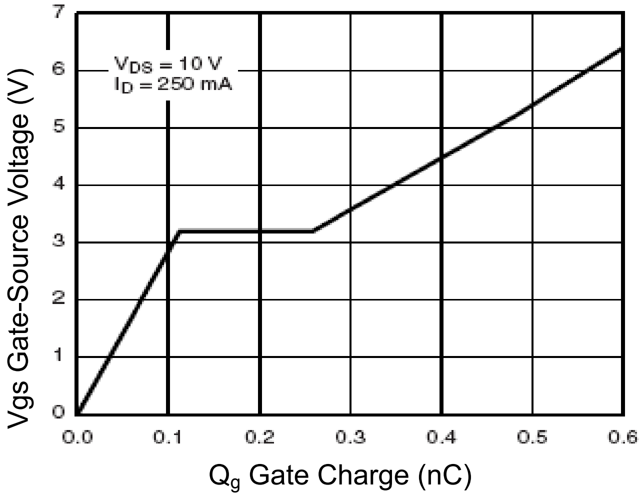


Figure 11. Gate Charge

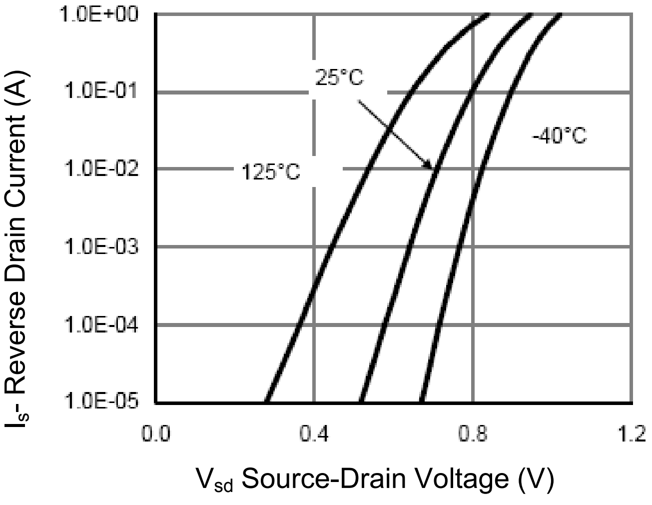


Figure 12. Source- Drain Diode Forward

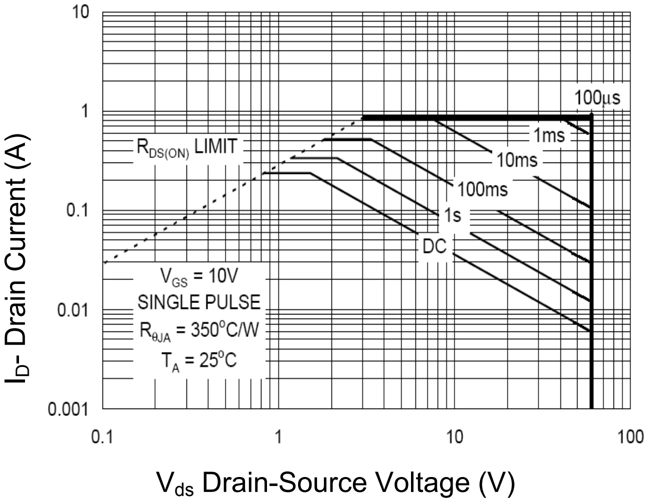


Figure 13. Safe Operation Area

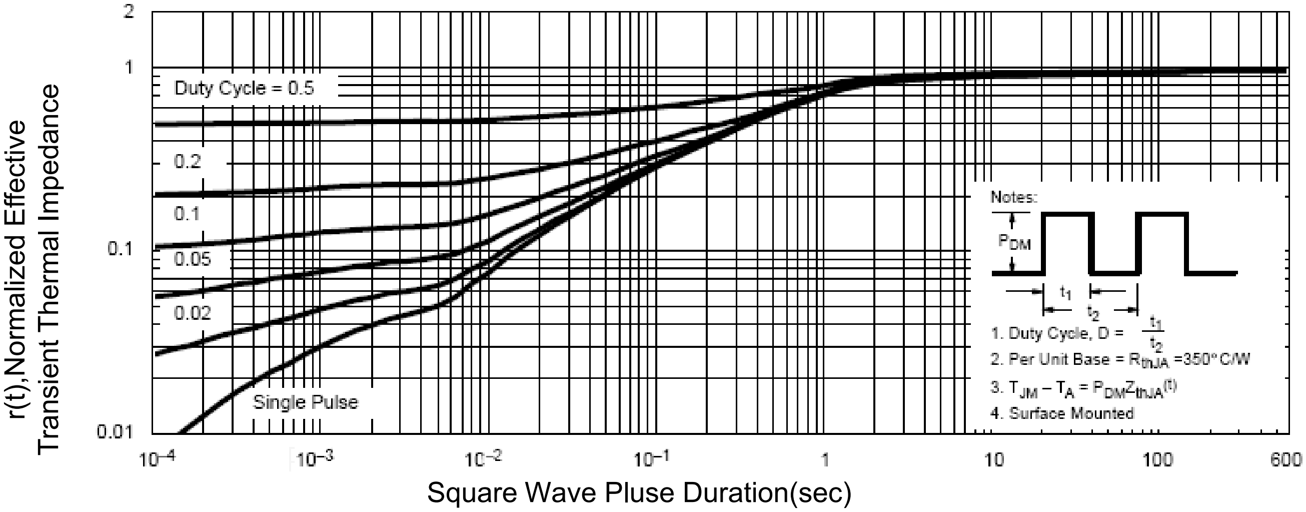
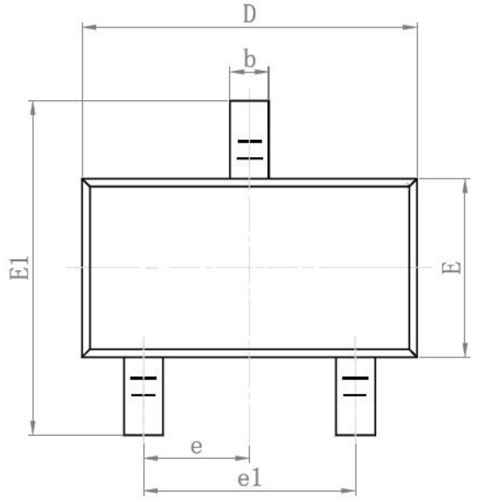
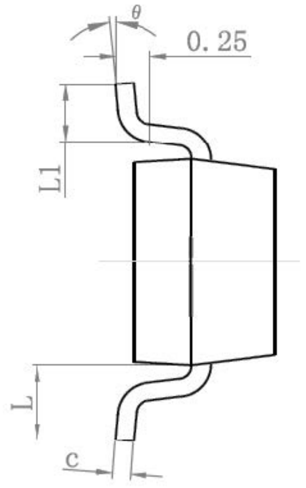


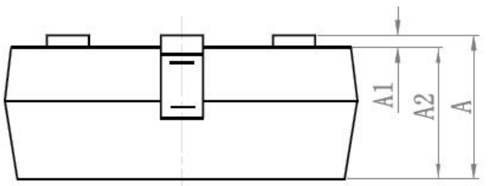
Figure 14. Normalized Maximum Transient Thermal Impedance

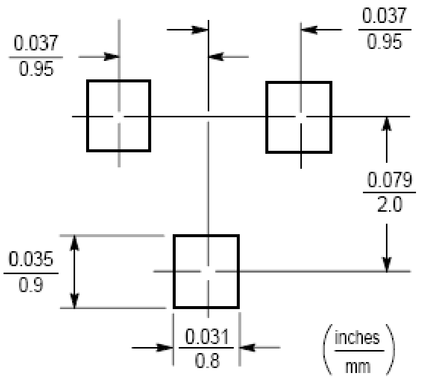
SOT-23 PACKAGE INFORMATION

Dimensions in Millimeters (UNIT:mm)









Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

NOTES

1. All dimensions are in millimeters.
2. Tolerance ±0.10mm (4 mil) unless otherwise specified.
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.