MAXIMUM RATINGS (T_J = 25 C unless otherwise noted)

Rating		Symbol	Value	Unit
Drain−to−Source Voltage Internally Clamped		V_{DSS}	42	V
Drain−to−Gate Voltage Internally Clamped	(R_G = 1.0 MΩ)	V_{DGR}	42	V
Gate−to−Source Voltage		V_{GS}	±14	V
Continuous Drain Current		I_D	Internally Limited	
Total Power Dissipation	@ T_A = 25 C (Note 1) @ T_A = 25 C (Note 2)	P_D	0.8 1.62	W
Maximum Continuous Drain, both channels on	@ T_A = 25 C (Note 1) @ T_A = 25 C (Note 2)	I_D	1.87 2.65	A
Thermal Resistance	Junction−to−Ambient Steady State (Note 1) Junction−to−Ambient Steady State (Note 2)	$R_{\theta JA}$ $R_{\theta JA}$	157 77	C/W
Single Pulse Drain−to−Source Avalanche Energy (V_{DD} = 32 V, V_G = 5.0 V, I_{PK} = 1.0 A, L = 300 mH, $R_{G(ext)}$ = 25 Ω)		E_{AS}	150	mJ
Load Dump Voltage	(V_{GS} = 0 and 10 V, R_I = 2.0 Ω, R_L = 9.0 Ω, t_d = 400 ms)	V_{LD}	55	V
Operating Junction and Storage Temperature		T_J, T_{stg}	−55 to 150	C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Surface−mounted onto min pad FR4 PCB, (Cu area = 40 sq. mm, 1 oz.).
2. Surface−mounted onto 1 sq. FR4 board (Cu area = 625 sq. mm, 2 oz.).

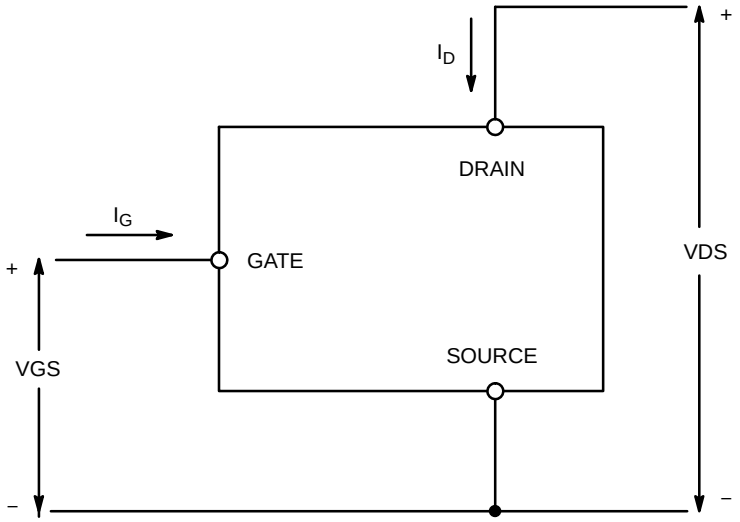


Figure 1. Voltage and Current Convention

Max	Unit
55	V
55	
4.0	µA
20	
100	µA
2.2	V
6.0	–mV/ C
200	mΩ
400	
230	
460	
230	
460	
	V
30	µs
200	µs
25	µs
70	µs
1.2	V/µs
0.5	

ELECTRICAL CHARACTERISTICS (T_J = 25 C unless otherwise noted)

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
GATE INPUT CHARACTERISTICS (Note 5)						
Current Limit Gate Input Current	V_{GS} = 5 V, V_{DS} = 10 V	I_{GCL}		0.05		mA
	V_{GS} = 10 V, V_{DS} = 10 V			0.4		
Thermal Limit Fault Gate Input Current	V_{GS} = 5 V, V_{DS} = 10 V	I_{GTL}		0.15		mA
	V_{GS} = 10 V, V_{DS} = 10 V			0.7		

TYPICAL PERFORMANCE CURVES

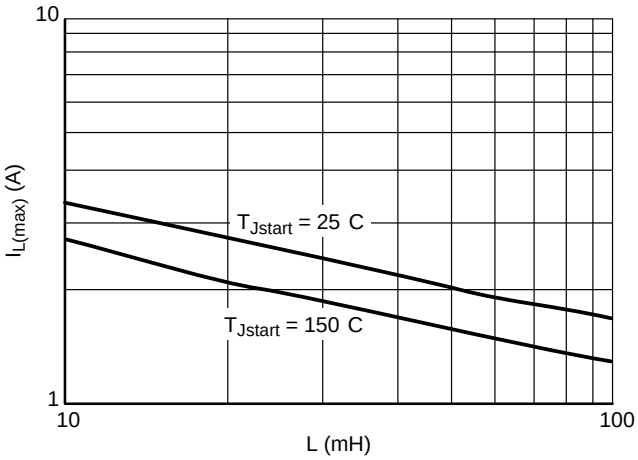
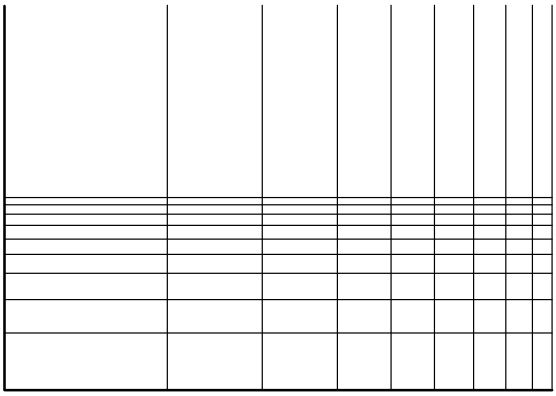
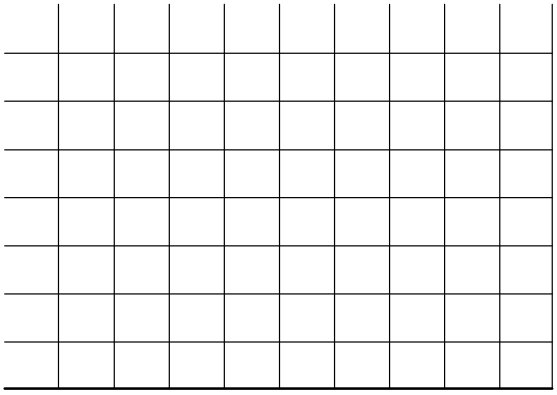
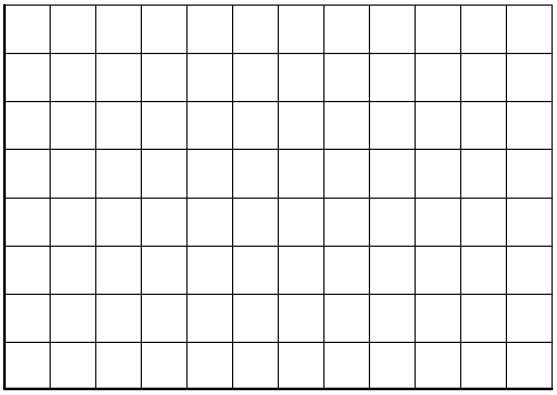


Figure 2. Single Pulse Maximum Switch−off Current vs. Load Inductance





TYPICAL PERFORMANCE CURVES



TYPICAL PERFORMANCE CURVES

Figure 20. Transient Thermal Resistance

TEST CIRCUITS AND WAVEFORMS

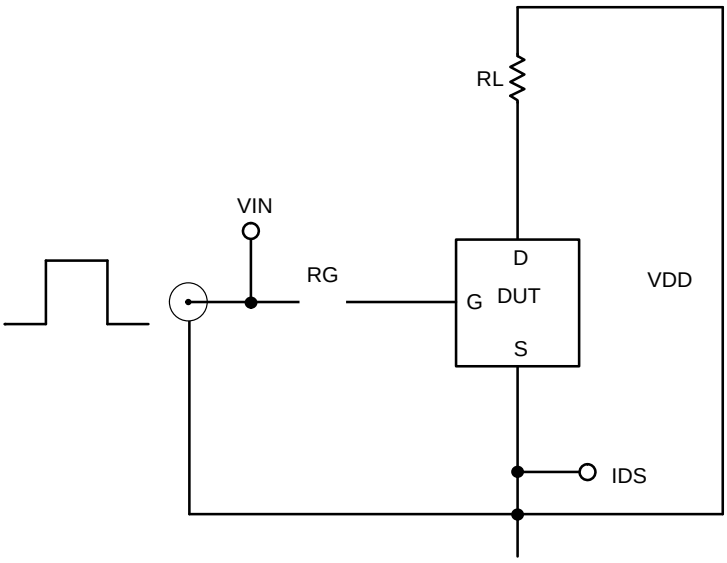
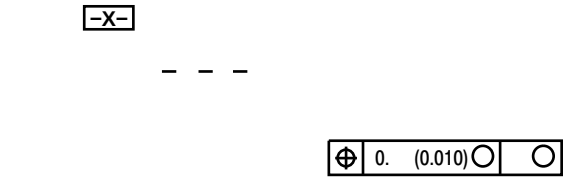


Figure 21. Resistive Load Switching Test Circuit



C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0	8	0	8
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

0. (0.010) 1 0 1 1 0 0 1 . 0 0 0 0 . 1 1 0 1 1 . 1 0 . 0 0 0 1 . 1 1 0 0 1 1 0 ( ) 0 1 . 1 1 0 0 1 1 . 1 1 . 1 0 0 . 0 0 0 . 1 1 . 1 0 0 . 0 0 0 1 1 . 1 0 0 0 1 0 0 0 0 .)