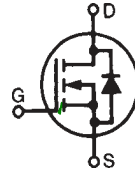


**Linear L2™ Power
MOSFET with extended
FBSOA**

**IXTH30N60L2
IXTQ30N60L2
IXTT30N60L2**

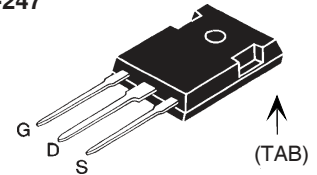
**V_{DSS} = 600V
I_{D25} = 30A
R_{DS(on)} ≤ 240mΩ**

N-Channel Enhancement Mode
Avalanche rated

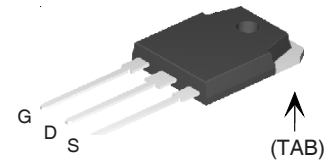


Symbol	Test Conditions	Maximum Ratings	
V _{DSS}	T _J = 25°C to 150°C	600	V
V _{DGR}	T _J = 25°C to 150°C, R _{GS} = 1MΩ	600	V
V _{GSS}	Continuous	±20	V
V _{GSM}	Transient	±30	V
I _{D25}	T _C = 25°C	30	A
I _{DM}	T _C = 25°C, pulse width limited by T _{JM}	80	A
I _A	T _C = 25°C	30	A
E _{AS}	T _C = 25°C	2	J
P _D	T _C = 25°C	540	W
T _J		-55 to +150	°C
T _{JM}		+150	°C
T _{stg}		-55 to +150	°C
T _L	1.6mm (0.063in) from case for 10s	300	°C
T _{SOLD}	Plastic body for 10s	260	°C
M _d	Mounting torque (TO-247&TO-3P)	1.13/10	Nm/lb.in.
Weight	TO-247	6.0	g
	TO-3P	5.5	g
	TO-268	4.0	g

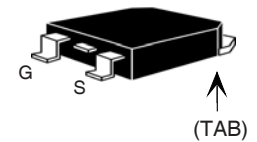
TO-247



TO-3P



TO-268



G = Gate D = Drain
S = Source TAB = Drain

Symbol	Test Conditions (T _J = 25°C, unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
BV _{DSS}	V _{GS} = 0V, I _D = 1mA	600		V
V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2.5		V
I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100 nA
I _{DSS}	V _{DS} = V _{DSS}			50 μA
	V _{GS} = 0V T _J = 125°C			300 μA
R _{DS(on)}	V _{GS} = 10V, I _D = 0.5 • I _{D25} , Note 1			240 mΩ

Features

- Designed for linear operation
- International standard packages
- Avalanche rated
- Molding epoxies meet UL 94 V-0 flammability classification
- Guaranteed FBSOA at 75°C

Applications

- Solid state circuit breakers
- Soft start controls
- Linear amplifiers
- Programmable loads
- Current regulators

Fig. 1. Output Characteristics
@ 25°C

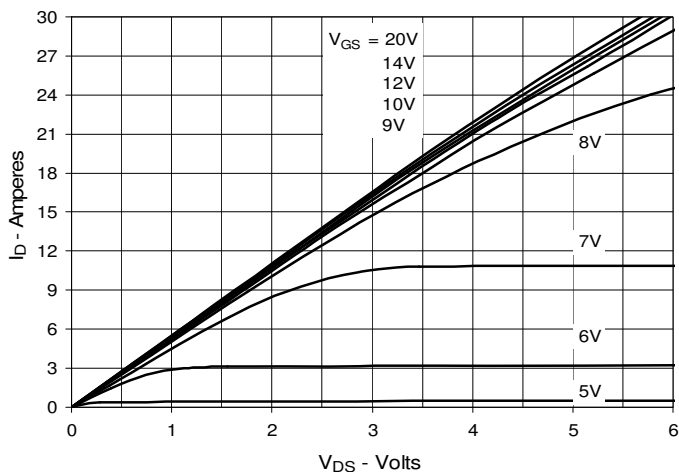


Fig. 2. Extended Output Characteristics
@ 25°C

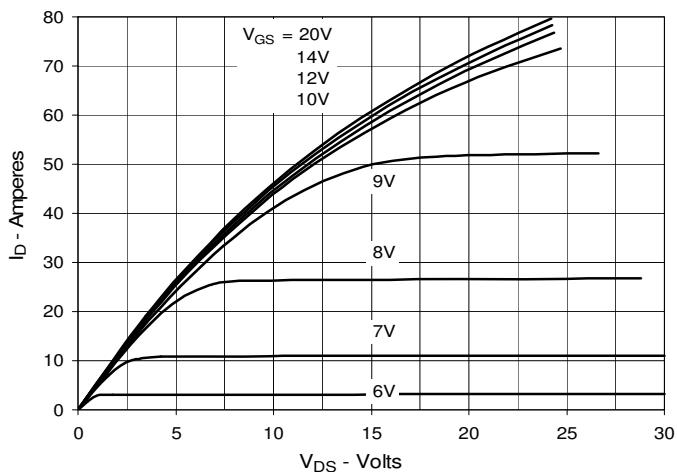


Fig. 3. Output Characteristics
@ 125°C

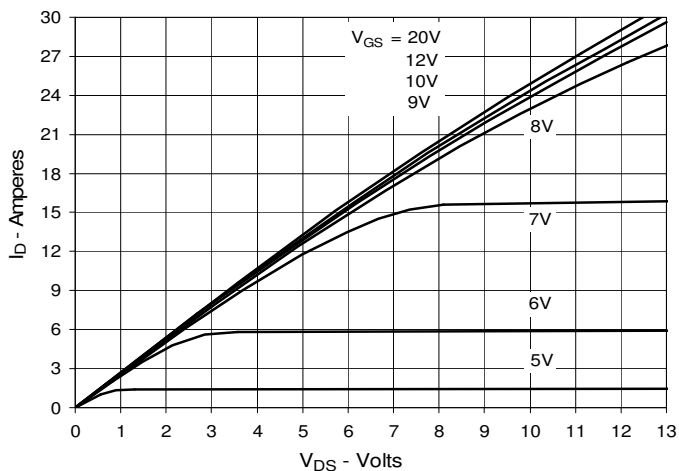


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 15A$ Value vs. Junction Temperature

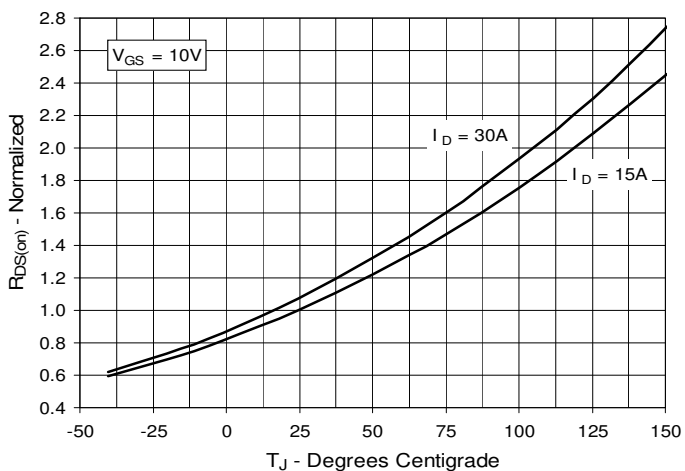


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 15A$ Value vs. Drain Current

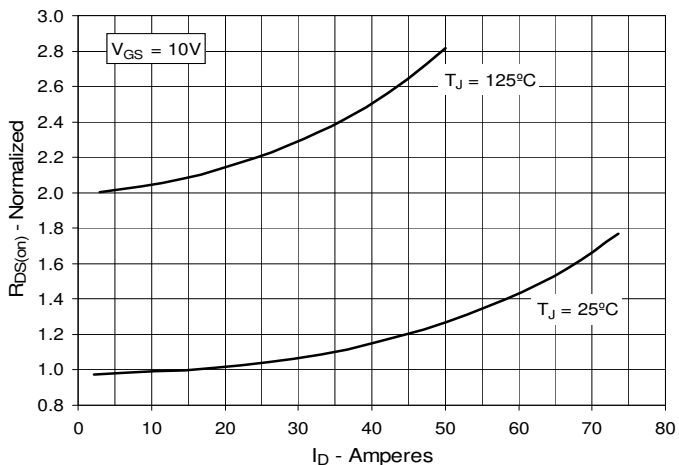


Fig. 6. Maximum Drain Current vs. Case Temperature

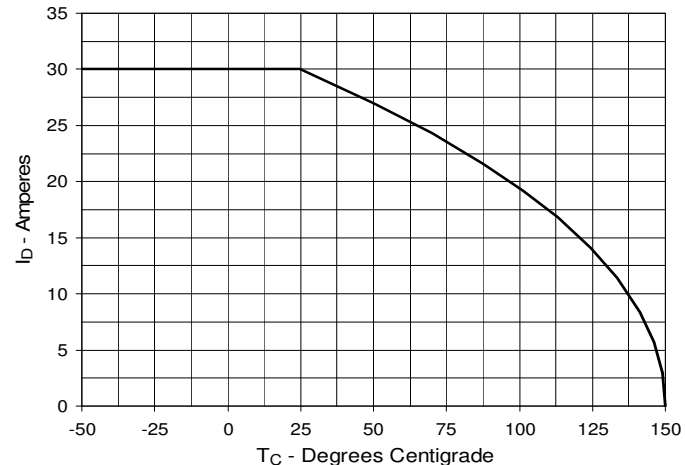


Fig. 7. Input Admittance

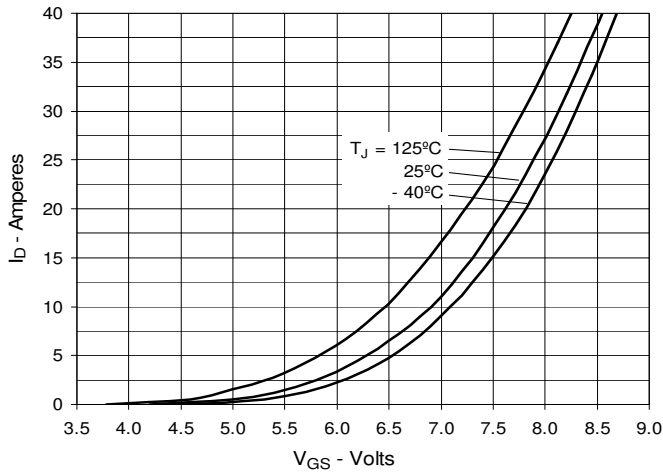


Fig. 8. Transconductance

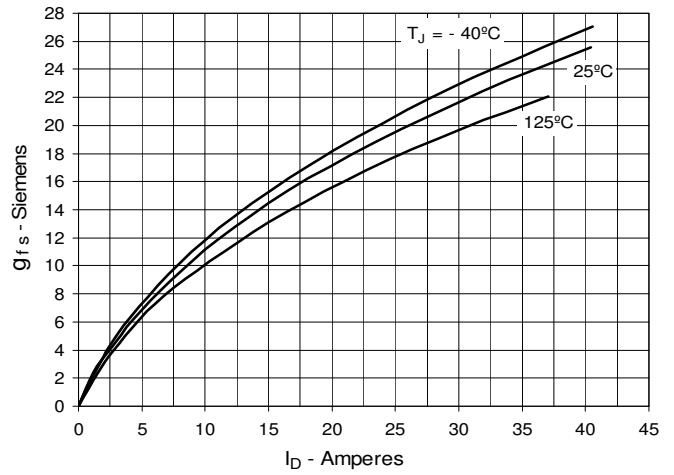


Fig. 9. Forward Voltage Drop of Intrinsic Diode

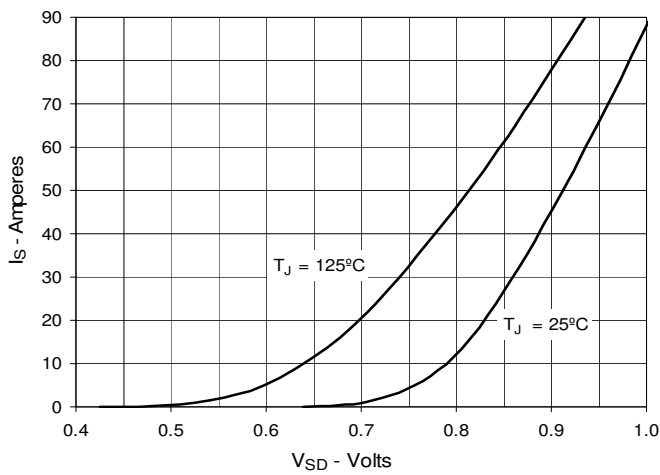


Fig. 10. Gate Charge

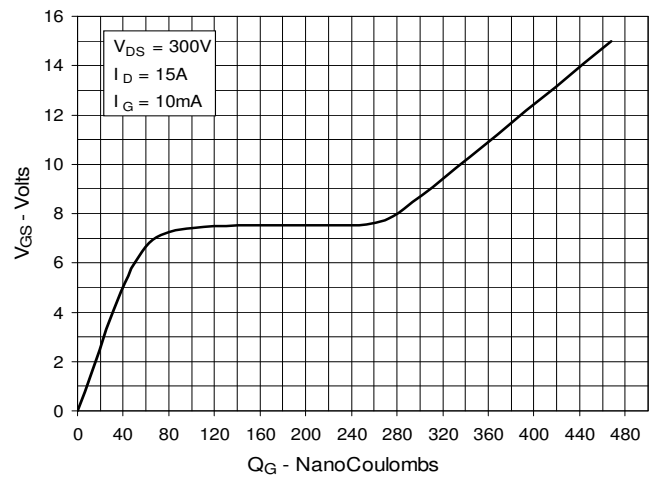


Fig. 11. Capacitance

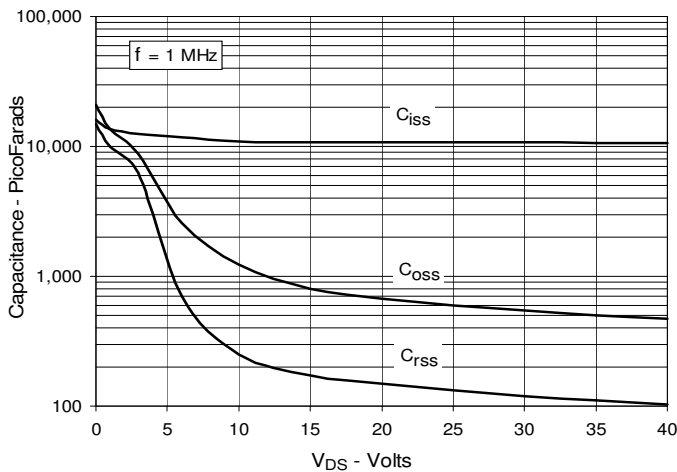


Fig. 12. Maximum Transient Thermal Impedance

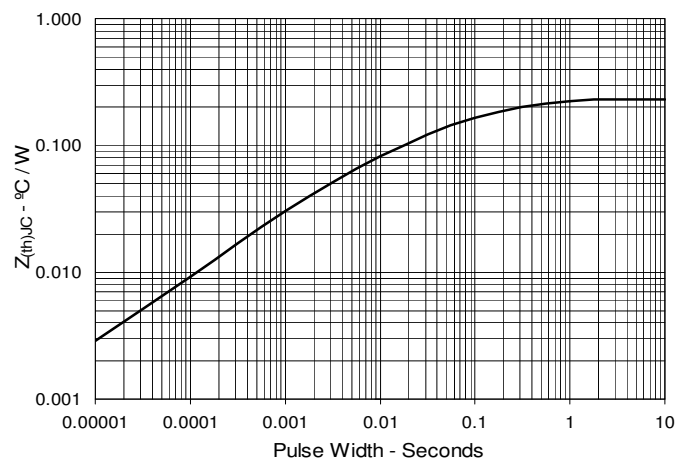


Fig. 13. Forward-Bias Safe Operating Area
@ $T_C = 25^\circ\text{C}$

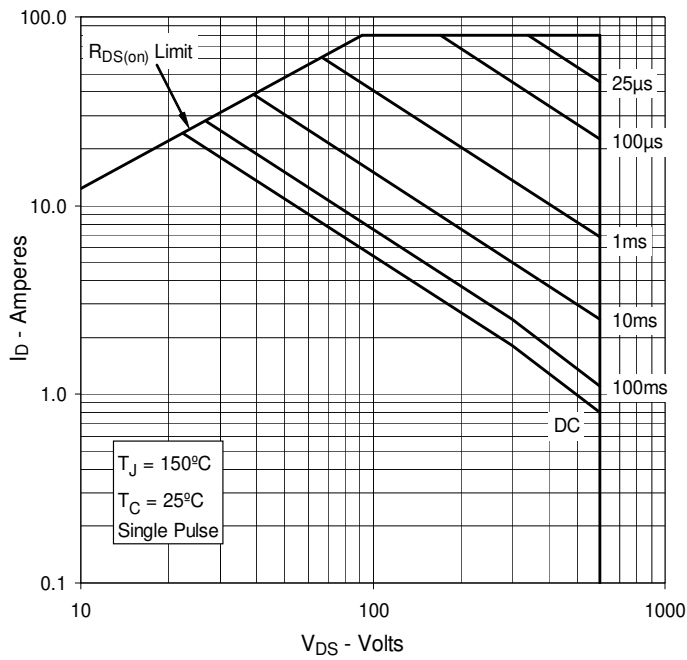
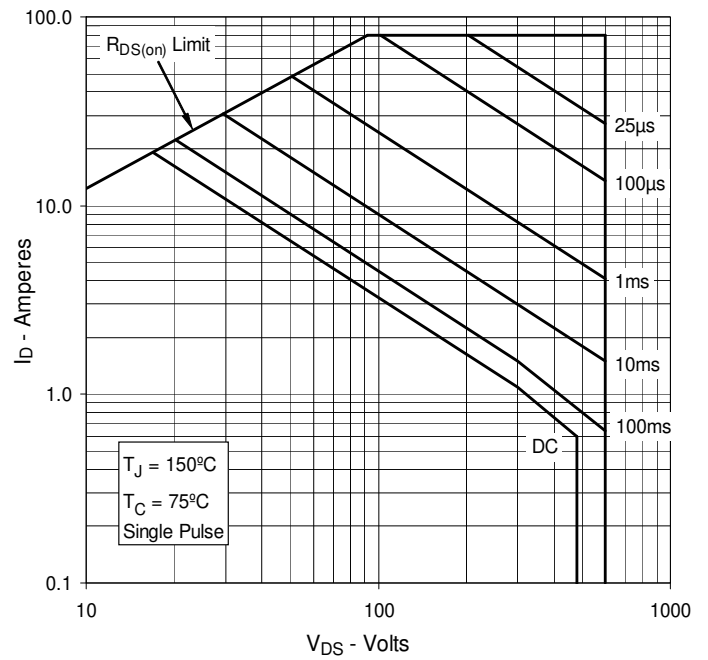


Fig. 14. Forward-Bias Safe Operating Area
@ $T_C = 75^\circ\text{C}$





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