

Features

- Typ. $R_{DS(on)} = 13.5 \text{ m}\Omega$ @ $V_{GS} = 18 \text{ V}$ Typ. $R_{DS(on)} = 18 \text{ m}\Omega$ @ $V_{GS} = 15 \text{ V}$
- Ultra Low Gate Charge $(Q_{G(tot)} = 262 \text{ nC})$
- High Speed Switching with Low Capacitance ($C_{oss} = 365 \text{ pF}$)
- 100% Avalanche Tested
- $T_J = 175^{\circ}C$
- This Device is Halide Free and RoHS Compliant with exemption 7a, Pb–Free 2LI (on second level interconnection)

Typical Applications

- Solar Inverters
- Electric Vehicle Charging Stations
- Uninterruptable Power Supplies (UPS)
- Energy Storage Systems
- Switch Mode Power Supplies (SMPS)

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

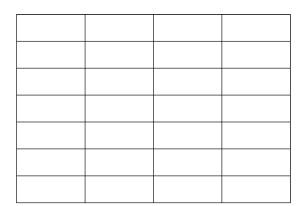
Parameter			Symbol	Value	Unit
Drain-to-Source Voltage			V _{DSS}	750	V
Gate-to-Source Voltage			V_{GS}	-8/+22	V
Recommended Operation Values of Gate-to-Source Voltage		T _C < 175°C	V_{GSop}	-5/+18	٧
Continuous Drain Current (Note 1)	Steady State	T _C = 25°C	I _D	140	Α
Power Dissipation (Note 1)			P _D	500	W
Continuous Drain Current (Note 1)	Steady State	T _C = 100°C	I _D	99	Α
Power Dissipation (Notes 1)			P _D	250	W
Pulsed Drain Current (Note 2)	T _C = 25°C		I _{DM}	483	Α
Single Pulse Surge Drain Current Capability	$T_A = 25^{\circ}C$, $t_p = 10 \mu s$, $R_G = 4.7 \Omega$		I _{DSC}	807	Α
Operating Junction and Storage Temperature Range			mperature T _J , T _{stg}		°C
Source Current (Body Diode)			I _S	108	Α
Single Pulse Drain-to-Source Avalanche Energy (I _{L(pk)} = 18 A, L = 1 mH) (Note 3)			E _{AS}	162	

Table 2. ELECTRICAL CHARACTERISTICS ($T_J = 25^{\circ}C$ unless otherwise specified) (continued)

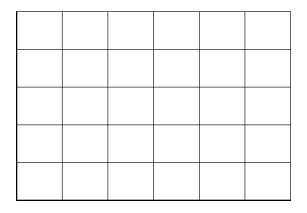
Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
SOURCE-DRAIN DIODE CHARACTER	RISTICS	•				
Reverse Recovery Time	t _{RR}	$V_{GS} = -5/18 \text{ V}, I_{SD} = 66 \text{ A},$ $dI_S/dt = 1000 \text{ A/}\mu\text{s}$	_	28	-	ns
Reverse Recovery Charge	Q _{RR}		-	221	-	nC
Reverse Recovery Energy	E _{REC}		-	19	-	μJ
Peak Reverse Recovery Current	I _{RRM}		-	16	-	Α
Charge Time	Та		_	17	-	ns
Discharge Time	Tb		-	11	_	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS (continued)



Q_g, GATE CHARGE (nC)

Figure 7. Gate-to-Source Voltage vs. Total Charge

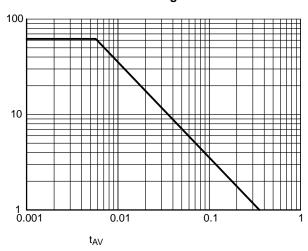


Figure 8. Capacitance vs. Drain-to-Source Voltage

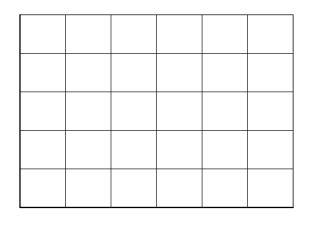


Figure 9. Unclamped Inductive Switching Capability

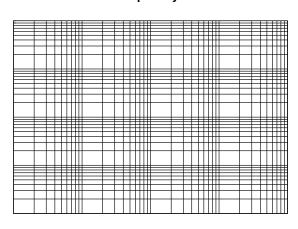
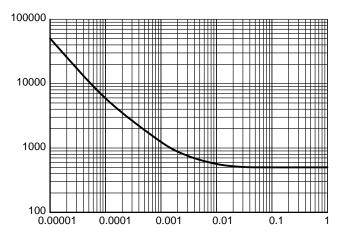


Figure 10. Maximum Continuous Drain Current vs. Case Temperature



TYPICAL CHARACTERISTICS (continued)

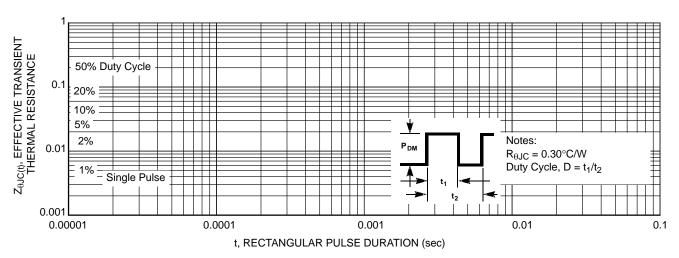


Figure 13. Junction-to-Case Thermal Response

PACKAGE DIMENSIONS

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