

• This Device is PbFree and is RoHS Compliant

Typical Applications

- Automotive On Board Charger
- Automotive DC/DC Converter for EV/HEV

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

Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSSt c}	ı	

	I _S	47	Α
Single Pulse Drain to Source Avalanche Energy (I _{L(pk)} = 10.1 A, L = 1 mH) (Note 3)	E _{AS}	51	mJ

Maximum Lead Temperature for Soldering (1/8

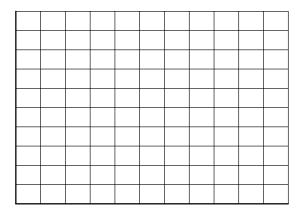
THERMAL RESISTANCE MAXIMUM RATINGS			

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

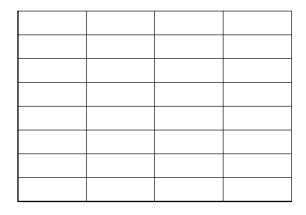
Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
DRAIN-SOURCE DIODE CHARACTER	ISTICS					
Reverse Recovery Time	t _{RR}	V _{GS} = 5/18 V, I _{SD} = 20 A, dI _S /dt = 1000 A/μs		18		ns
Reverse Recovery Charge	Q _{RR}			85		nC
Reverse Recovery Energy	E _{REC}			11		μJ
Peak Reverse Recovery Current	I _{RRM}			10		Α
Charge time	Та			10		ns
Discharge time	Tb			7.6		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

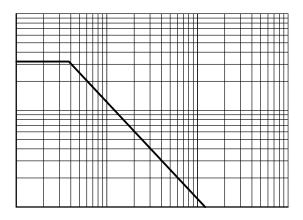


TYPICAL CHARACTERISTICS



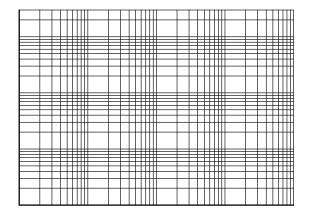
Q_g, GATE CHARGE (nC)

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



 t_{AV} , TIME IN AVALANCHE (ms)

Figure 9. Unclamped Inductive Switching Capability



 V_{DS}

Figure 11. Safe Operating Area

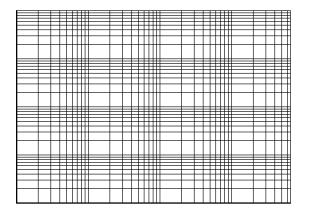
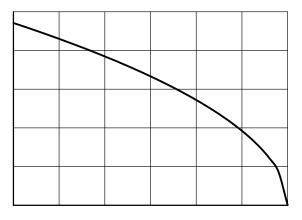
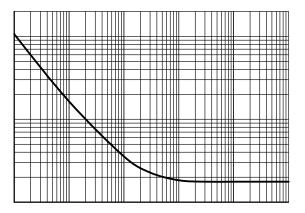


Figure 8. Capacitance vs. Drain-to-Source Voltage



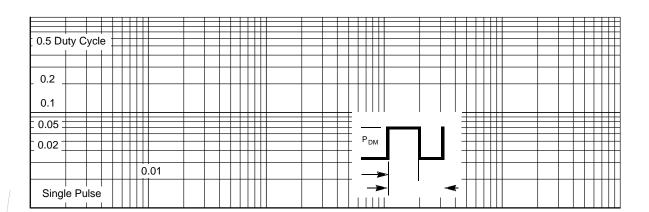
T_C, CASE TEMPERATURE (°C)

Figure 10. Maximum Continuous Drain Current vs. Case Temperature



TYPICAL CHARACTERISTICS

 $Z_{\theta JC}(t)$. EFFECTIVE TRANSIENT THERMAL RESISTANCE (°C/W)



t, RECTANGULAR PULSE DURATION (sec)

Figure 13. Junction-to-Case Thermal Response

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