# onsemi

Ultra Low Gate Charge ( $Q_{G(tot)} = 50 \text{ nC}$ )

- Low Output Capacitance ( $C_{oss} = 89 \text{ pF}$ )
- 100% Avalanche Tested
- AEC-€ °C

			V <sub>GSop</sub>	-5/+18	V
Continuous Drain Current (Note 1)	Steady State	T <sub>C</sub> = 25°C	۱ <sub>D</sub>	31	A
Power Dissipation (Note 1)			P <sub>D</sub>	129	W
Continuous Drain Current (Note 1)	Steady State	T <sub>C</sub> = 100°C	۱ <sub>D</sub>	22	A
Power Dissipation (Note 1)			P <sub>D</sub>	64	W
Pulsed Drain Current (Note 2)	т <sub>с</sub>	= 25°C	I <sub>DM</sub>	97	A
Operating Junction and Range	emperature	T <sub>J</sub> , T <sub>stg</sub>	–55 to +175	°C	
Source Current (Body D	I <sub>S</sub>	26	А		
Single Pulse Drain–to–S Energy (I <sub>L(pk)</sub> = 9.4 A, L			E <sub>AS</sub>	44	mJ
Maximum Lead Tempera	́т	-			

(1/8'' from case for 5's)

#### THERMAL RESISTANCE MAXIMUM RATINGS

Parameter	Symbol	Max	Unit
Junction ïto ïCase ï Steady State (Note 1)	R <sub>JC</sub>	1.16	°C/W
Junction ito iAmbient i Steady State (Note 1)	R <sub>JA</sub>	NANO te 1)	

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

Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
DRAIN-SOURCE DIODE CHARACTERIS	TICS					
Reverse Recovery Time	t <sub>RR</sub>	$V_{GS} = -5/18 \text{ V}, I_{SD} = 12 \text{ A},$ dI <sub>S</sub> /dt = 1000 A/ $\mu$ s	-	15	-	ns
Reverse Recovery Charge	Q <sub>RR</sub>	αι <sub>S</sub> /αt = 1000 Α/μs	_	62	-	nC
Reverse Recovery Energy	E <sub>REC</sub>		_	6.5	-	μJ
Peak Reverse Recovery Current	I <sub>RRM</sub>		_	8	-	А
Charge time	Та		-	8	_	ns
Discharge time	Tb	]	_	7	15 - ns   62 - nC   6.5 - μJ   8 - A	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.

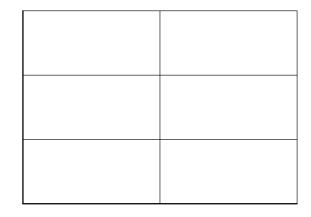
## TYPICAL CHARACTERISTICS

			15 V	

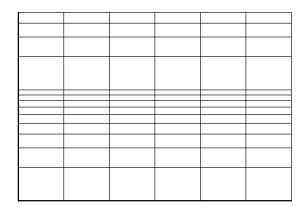
V<sub>DS</sub>, DRAIN-

Figure 1. On-Region Characteristics

			$\setminus$		



### Figure 2. Normalized On-Resistance vs. Drain Current and Gate Voltage



# TYPICAL CHARACTERISTICS

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

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t, RECTANGULAR PULSE DURATION (sec)

Figure 13. Junction-to-Case Thermal Response

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