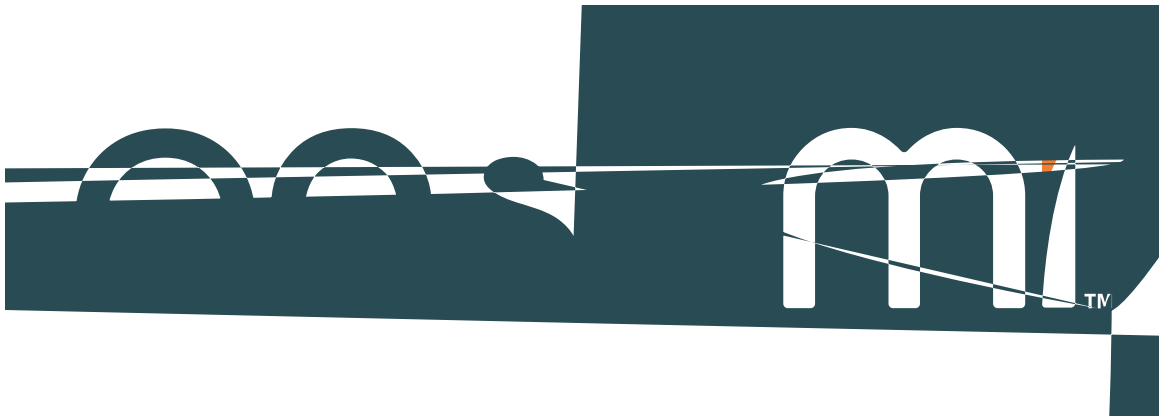


Is Now Part of



For more information, please visit our website at
www.nsmi.com





Maximum Ratings

Parameter	Symbol	Test Conditions	Value	Units
Drain-source voltage	V_{DS}		650	V
Gate-source voltage	V_{GS}	DC	-25 to +25	V
Continuous drain current ¹	I_D	$T_C = 25^\circ\text{C}$	85	A
		$T_C = 100^\circ\text{C}$	62	A
MEMC ETOq192.31 9.05.17 55.58430.11 648.7 Tc	I_{DM}		230	A
	E_{AS}	$L=15\text{mH}, I_{AS}=4\text{A}$	120	mJ
Power dissipation	P_{tot}	$T_C = 25^\circ\text{C}$	441	W
Maximum junction temperature	$T_{J,max}$		175	$^\circ\text{C}$
Operating and storage temperature	T_J, T_{STG}		-55 to 175	$^\circ\text{C}$
Max. lead temperature for soldering, %#, Zfca WlgY Zcf) gYWt bXg	T_L		250	$^\circ\text{C}$

1. Limited by $T_{J,max}$

2. Pulse width t_p limited by $T_{J,max}$

3. Starting $T_J = 25^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Test Conditions	Value		Units
			Min	Typ	
Thermal resistance, junction-to-case	R_q		0.26	0.34	$^\circ\text{C}/\text{W}$

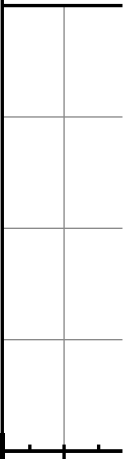




Typical Performance - Dynamic

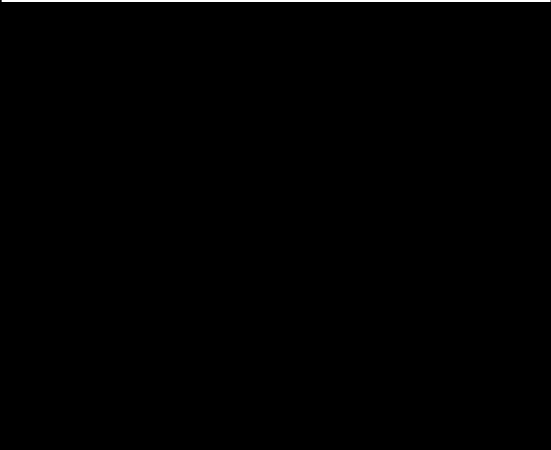
Parameter	Min	Value		Units
		Typ	Max	
C_{iss}		1500		
C_{oss}		320		
C_{rss}		2.3		
$C_{oss(er)}$		230		pF
$C_{oss(tr)}$		520		pF
E_{sw}		18.5		mJ
E_{on}		51		
E_{off}		11		
E_{tr}		19		
E_{off}		44		
E_{on}		26		
E_{tr}		63		
E_{off}		17		
E_{on}		657		
E_{off}		330		
E_{TOTAL}		987		





tics at $T_j =$

μ_r



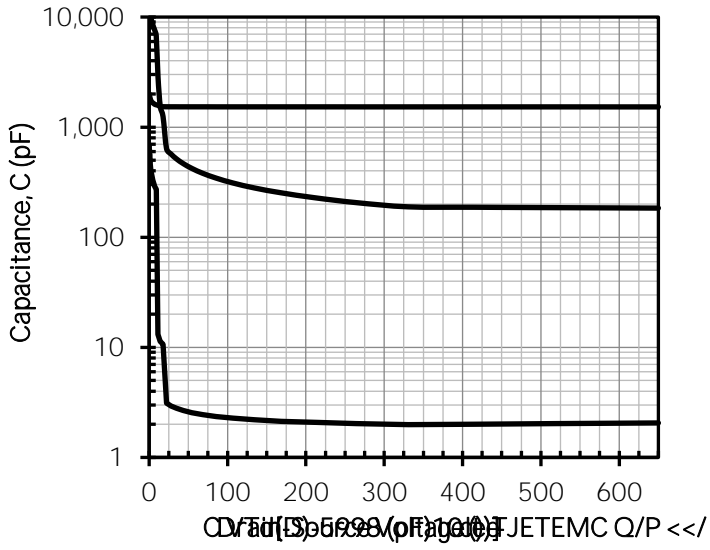


Figure 13. Typical capacitances at $f = 100\text{kHz}$ and $V_{GS} = 0\text{V}$

Figure 14. DC drain current derating

Figure 15. Total power dissipation

Figure 16. Maximum transient thermal impedance

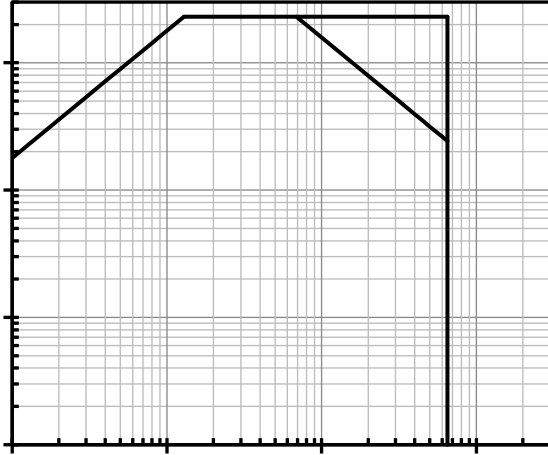


Figure 17. Safe operation area at $T_C = 25^\circ\text{C}$, $D = 0$, Parameter t_p

Figure 18. Clamped inductive switching energy vs. drain current at $T_J = 150^\circ\text{C}$

Figure 19. Clamped inductive switching turn-on energy vs. R_{G,EXT_ON}

Figure 20. Clamped inductive switching turn-off energy vs. R_{G,EXT_OFF}



TO-247-3L PACKAGE OUTLINE, PART MARKING AND TUBE SPECIFICATIONS

PACKAGE OUTLINE

SYM	MIN	MAX	MIN	MAX
A	0.185	0.209	4.699	5.309
A1	0.087	0.102	2.21	2.61
A2	0.059	0.098	1.499	

onsemi, **onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi**
