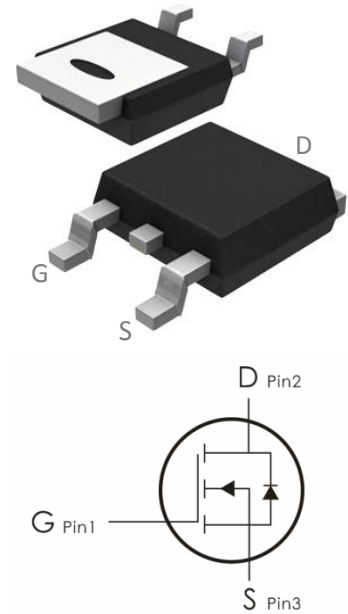


## Description:

This N-Channel MOSFET uses advanced trench technology and design to provide excellent  $R_{DS(on)}$  with low gate charge. It can be used in a wide variety of applications.

## Features:

- 1)  $V_{DS}=100V, I_D=11.3A, R_{DS(ON)} < 152m\ \Omega @ V_{GS}=10V$
- 2) Low gate charge.
- 3) Green device available.
- 4) Advanced high cell density trench technology for ultra low  $R_{DS(ON)}$ .
- 5) Excellent package for good heat dissipation.



## Absolute Maximum Ratings: ( $T_C=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Units
$V_{DS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Continuous Drain Current- $T_C=25^\circ\text{C}^G$	11.3	A
	Continuous Drain Current- $T_C=70^\circ\text{C}$	9	
$I_{DM}$	Pulsed Drain Current	45.4	A
$P_D$	Power Dissipation, $T_C=25^\circ\text{C}$	29.9	W
	Power Dissipation, $T_C=70^\circ\text{C}$	19.1	
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

## Thermal Characteristics:

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case	4.17	$^\circ\text{C}/\text{W}$

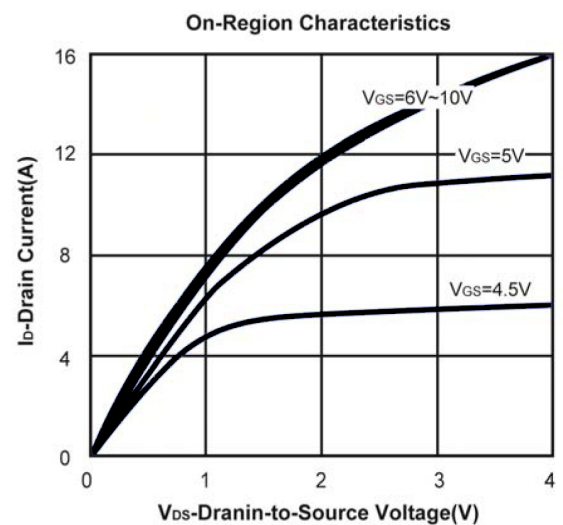
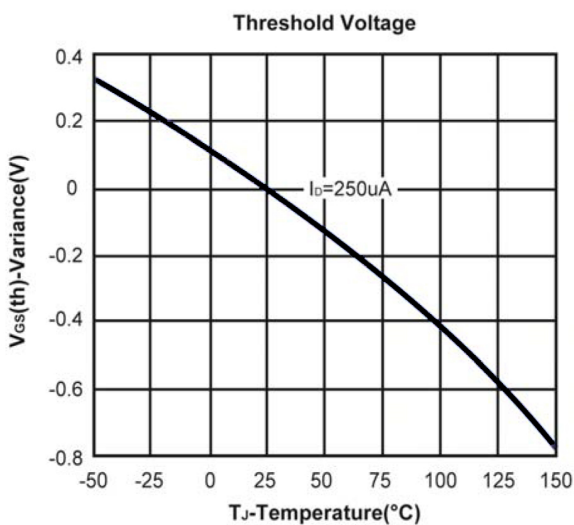
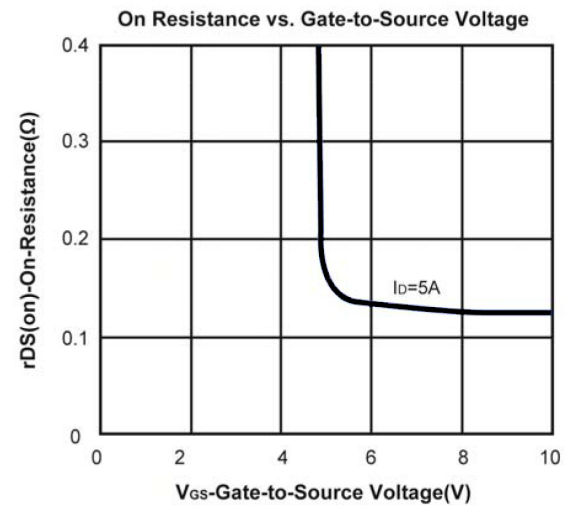
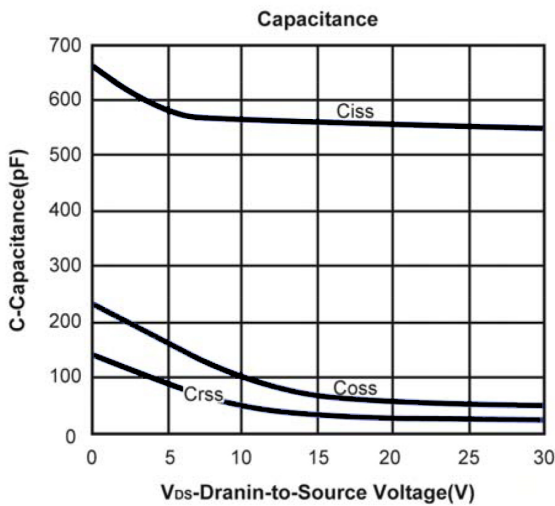
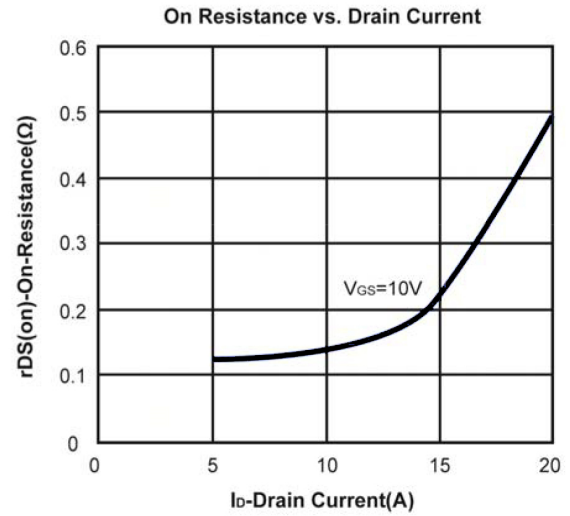
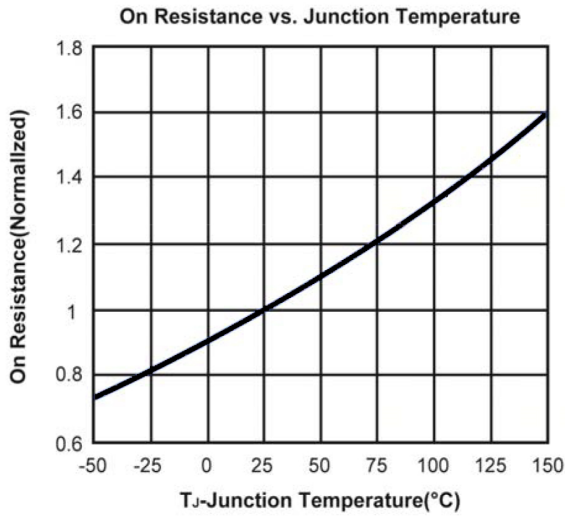
## Electrical Characteristics: ( $T_c=25^\circ\text{C}$ unless otherwise noted)

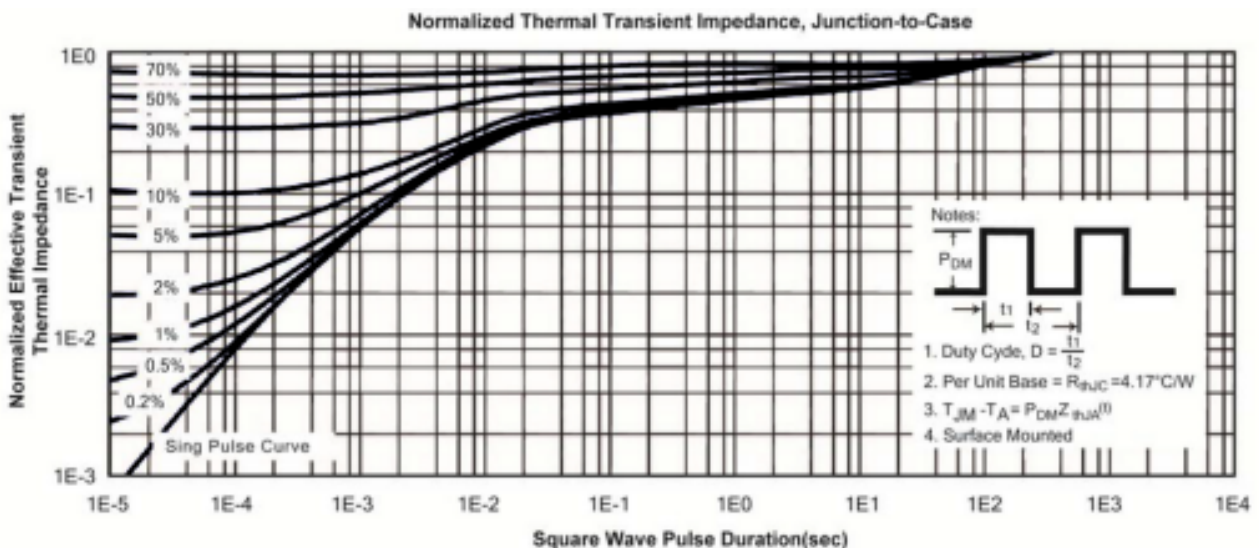
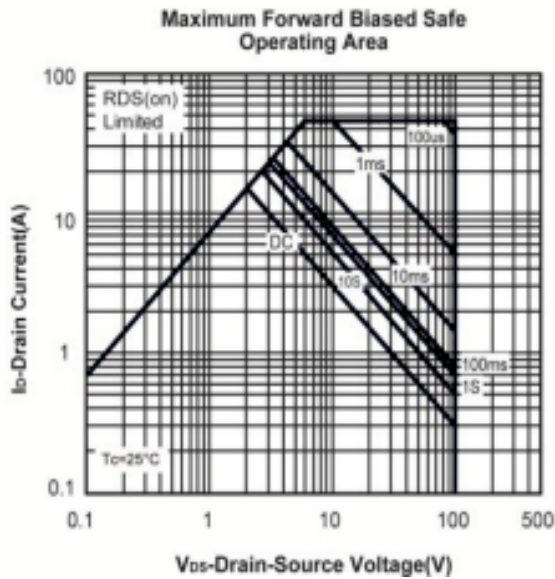
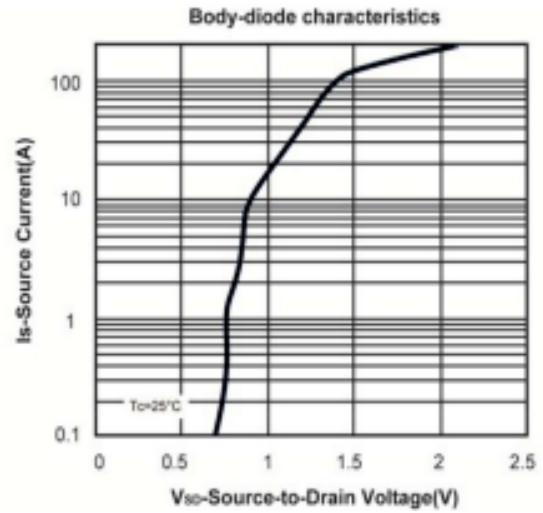
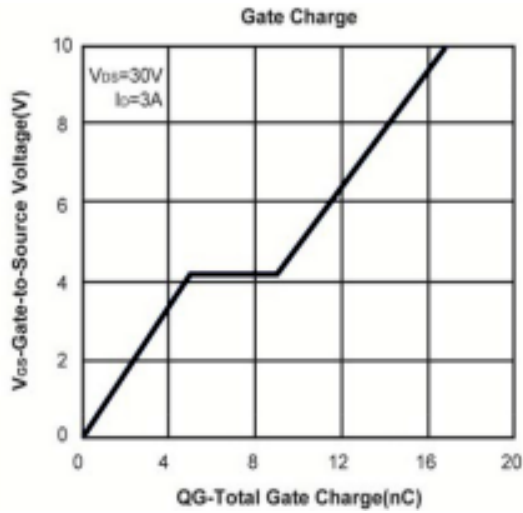
Symbol	Parameter	Conditions	Min	Typ	Max	Units
<b>Off Characteristics</b>						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\ \mu\text{A}$	100	---	---	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{GS}=0V, V_{DS}=100V$	---	---	1	$\mu\text{A}$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0A$	---	---	$\pm 100$	nA
<b>On Characteristics</b>						
$V_{GS(th)}$	GATE-Source Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\ \mu\text{A}$	1.22	---	2.4	V
$R_{DS(ON)}$	Drain-Source On Resistance <sup>a</sup>	$V_{GS}=10V, I_D=8A$	---	---	152	m $\Omega$
<b>Dynamic Characteristics</b>						
$C_{iss}$	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1\text{MHz}$	---	500	---	pF
$C_{oss}$	Output Capacitance		---	48	---	
$C_{rss}$	Reverse Transfer Capacitance		---	27	---	
<b>Switching Characteristics</b>						
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=30V, R_L=15\Omega$ $V_{GS}=10V, R_{GEN}=2.5\Omega$	---	12.4	---	ns
$t_r$	Rise Time		---	12	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	27.3	---	ns
$t_f$	Fall Time		---	2.6	---	ns
$Q_g$	Total Gate Charge	$V_{DS}=30V, V_{GS}=10V, I_D=3A$	---	16.8	---	nC
$Q_{gs}$	Gate-Source Charge		---	5	---	nC
$Q_{gd}$	Gate-Drain Charge		---	4	---	nC
<b>Drain-Source Diode Characteristics</b>						
$V_{SD}$	Source-Drain Diode Forward Voltage	$I_S=1A, V_{GS}=0V$	---	---	1.1	V

### Notes:

Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ , Guaranteed by design, not subject to production testing.

Typical Characteristics: ( $T_J=25^\circ\text{C}$  unless otherwise noted)





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