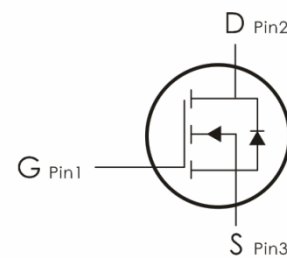


## Description:

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)  $V_{DS}=100V, I_D=50A, R_{DS(ON)} < 22m\ \Omega @ V_{GS}=10V$
- 2) Low gate charge.
- 3) Green device available.
- 4) Advanced high cell density trench technology for ultra  $R_{DS(ON)}$ .
- 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- $TC=25^\circ\text{C}$	50	A
	Continuous Drain Current- $TC=100^\circ\text{C}$	30	
$I_{DM}$	Pulsed Drain Current	200	
$I_{AR}$	Avalanche Current	15	A
$E_{AS}$	Single Pulse Avalanche Energy	170	mJ
$P_D$	Power Dissipation	160	W
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55-+150	$^\circ\text{C}$

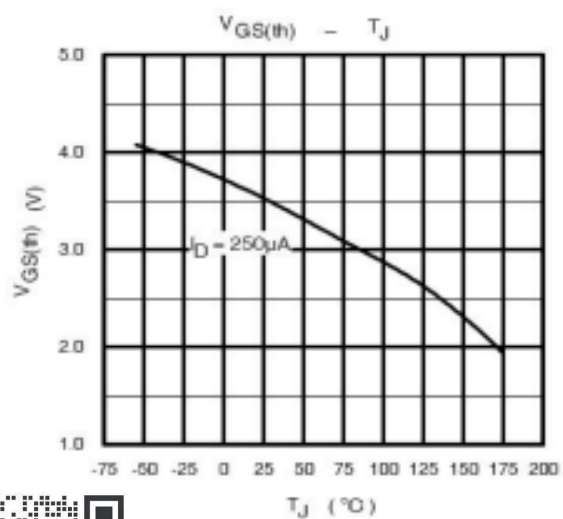
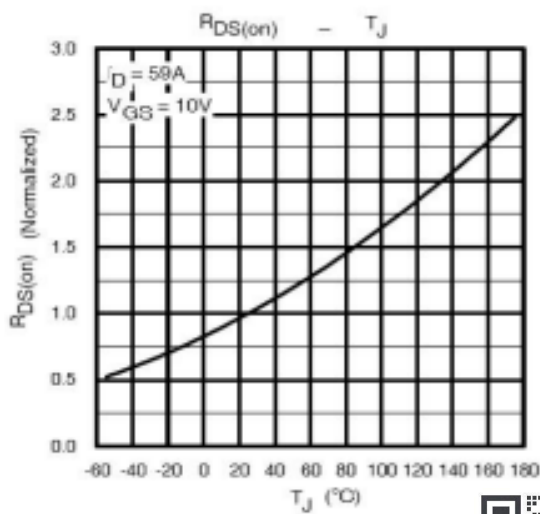
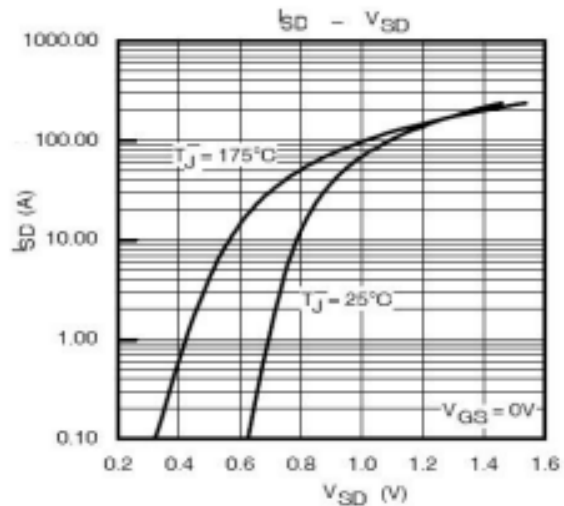
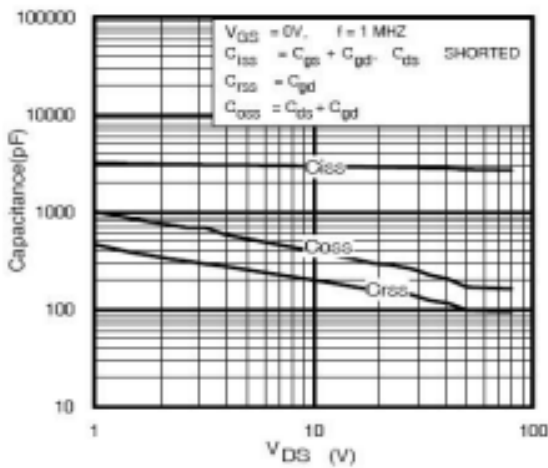
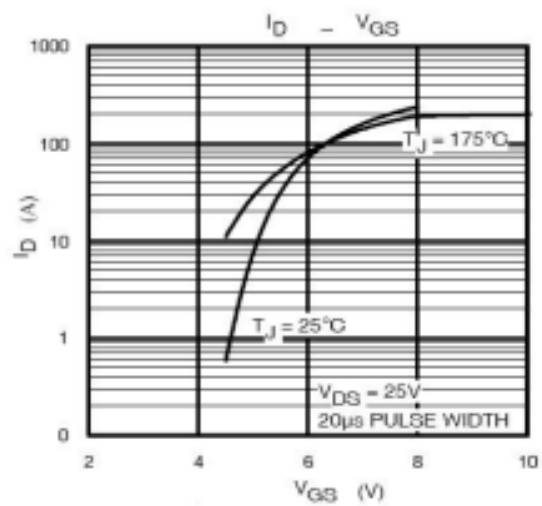
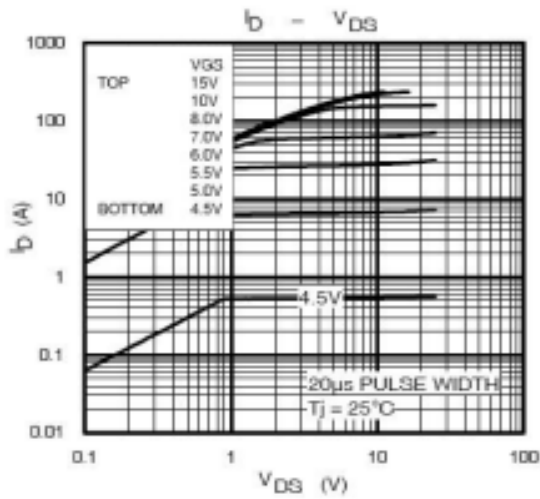
## Thermal Characteristics:

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Junction to Ambient	40	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Conditions	Min	Typ	Max	Units
<b>Off Characteristics</b>						
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\ \mu\text{A}$	100	---	---	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{GS}=0V, V_{DS}=100V$	---	---	10	$\mu\text{A}$
		$V_{GS}=0V, V_{DS}=100V, T_J=125^\circ\text{C}$	---	---	250	
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0A$	---	---	$\pm 0.2$	nA
<b>On Characteristics</b>						
$V_{GS(th)}$	GATE-Source Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\ \mu\text{A}$	2	---	4	V
$R_{DS(ON)}$	Drain-Source On Resistance	$V_{GS}=10V, I_D=1A$	---	18	22	m $\Omega$
$G_{FS}$	Forward Transconductance	$V_{DS}=15V, I_D=10A, \Delta I_D=1A$	---	---	25	S
$V_{SD}$	Forward On Voltage	$V_{GS}=0V, I_S=35A, T_J=25^\circ\text{C}$	---	---	1.3	V
<b>Dynamic Characteristics</b>						
$C_{iss}$	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1\text{MHz}$	---	2900	---	pF
$C_{oss}$	Output Capacitance		---	290	---	
$C_{rss}$	Reverse Transfer Capacitance		---	150	---	
<b>Switching Characteristics</b>						
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=50V, I_D=35A, R_{GEN}=6.8\ \Omega, V_{GS}=10V$	---	17	---	ns
$t_r$	Rise Time		---	77	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	41	---	ns
$t_f$	Fall Time		---	56	---	ns

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



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