

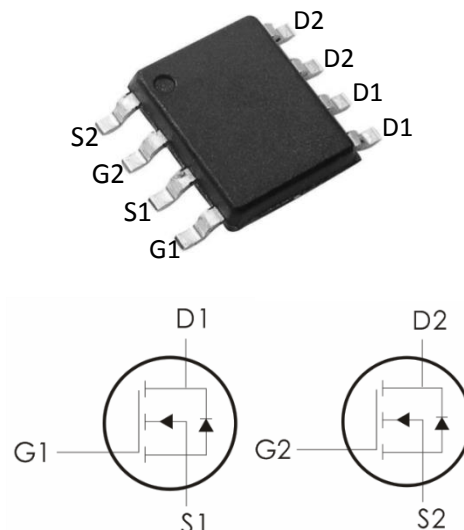
Description:

This Dual 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) $V_{DS}=20V, I_D=6.5A, R_{DS(on)} < 24m\Omega @ V_{GS}=4.5V$
- 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: ($T_C=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Drain Current – Continuous ($T_C=25^\circ C$) ¹	6.5	A
	Drain Current – Continuous ($T_C=100^\circ C$)	---	
I_{DM}	Drain Current – Pulsed	20	
P_D	Power Dissipation ($T_C=25^\circ C$) ¹	1.6	W
	Power Dissipation – Derate above $25^\circ C$	---	
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ C$

Thermal Characteristics:

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case ¹	40	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient ¹	78	

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

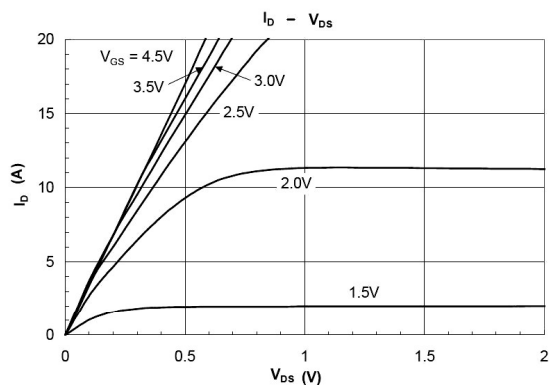
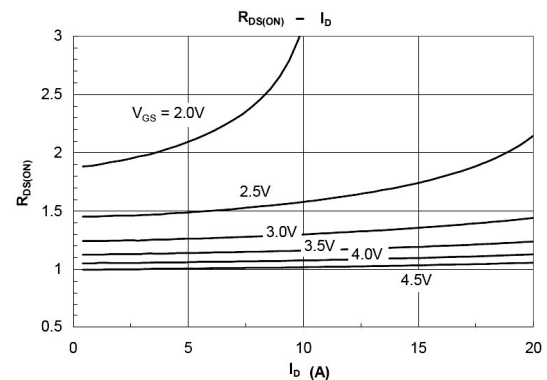
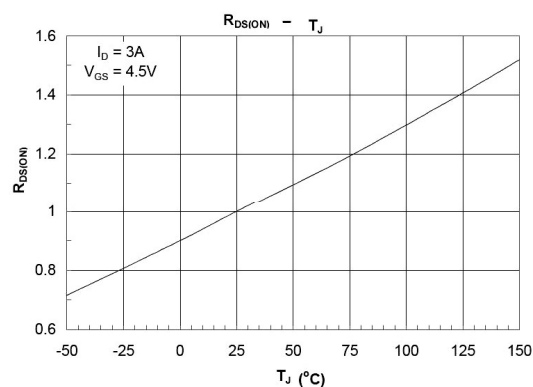
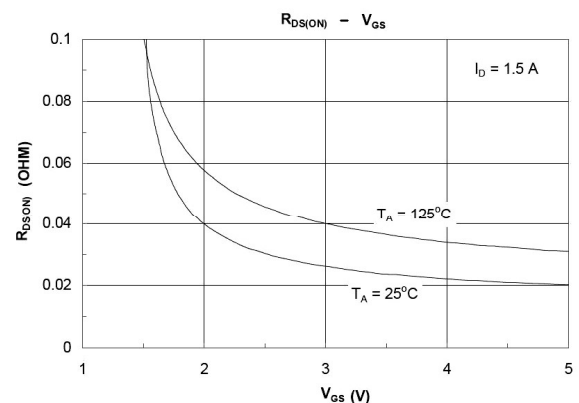
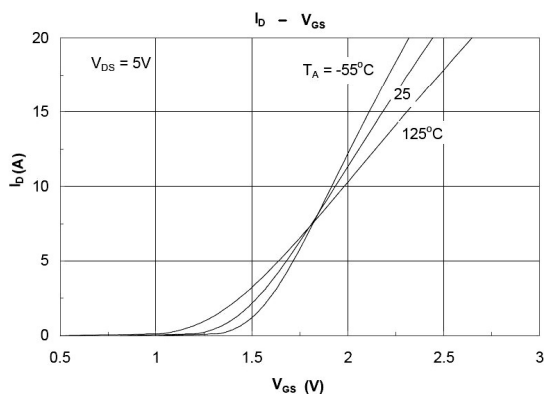
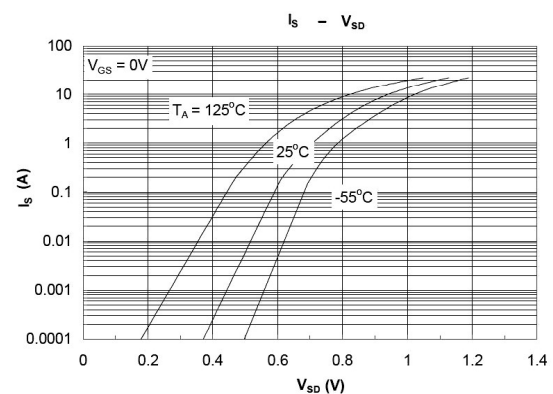
Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250 μ A	20	---	---	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =16V , V _{GS} =0V ,T _J =25℃	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =± 10V, V _{DS} =0V	---	---	± 100	nA
On Characteristics						
V _{GS(th)}	GATE-Source Threshold Voltage	V _{GS} =V _{DS} , I _D =250 μ A	0.5	1	1.5	V
R _{DS(ON)}	Static Drain-Source On Resistance	V _{GS} =4.5V, I _D =6.5A	---	19	24	m Ω
		V _{GS} =2.5V, I _D =5.4A	---	23	30	
G _{FS}	Forward Transconductance	V _{DS} =5V, I _D =3A	---	11	---	S
Dynamic Characteristics ⁴						
C _{iss}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	---	700	---	pF
C _{oss}	Output Capacitance		---	175	---	
C _{rss}	Reverse Transfer Capacitance		---	85	---	
Switching Characteristics						
t _{d(on)}	Turn-On Delay Time ^{2,3}	V _{DS} =10V, I _D =1A, R _{GEN} =6 Ω , V _{GS} =4.5V	---	8	16	ns
t _r	Rise Time ^{2,3}		---	10	18	ns
t _{d(off)}	Turn-Off Delay Time ^{2,3}		---	18	29	ns
t _f	Fall Time ^{2,3}		---	5	10	ns
Q _g	Total Gate Charge ^{2,3}	V _{GS} =4.5V, V _{DS} =10V, I _D =3A	---	7	10	nC
Q _{gs}	Gate-Source Charge ^{2,3}		---	1.2	---	nC
Q _{gd}	Gate-Drain “Miller” Charge ^{2,3}		---	.9	---	nC
Drain-Source Diode Characteristics						
V _{SD}	Source-Drain Diode Forward Voltage ²	V _{GS} =0V, I _S =1.3A, T _J =25℃	---	---	1.2	V

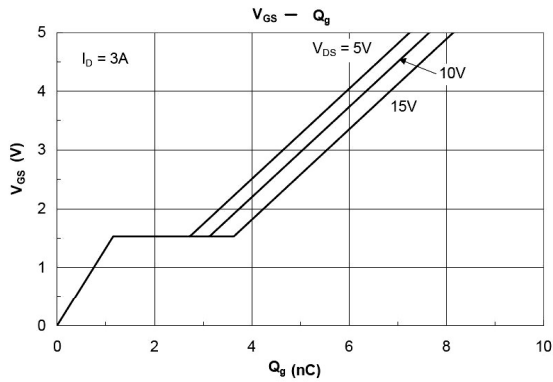
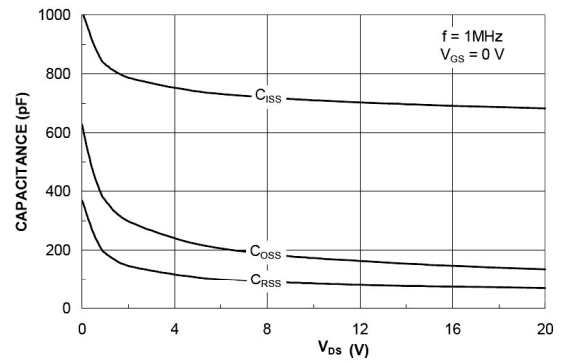
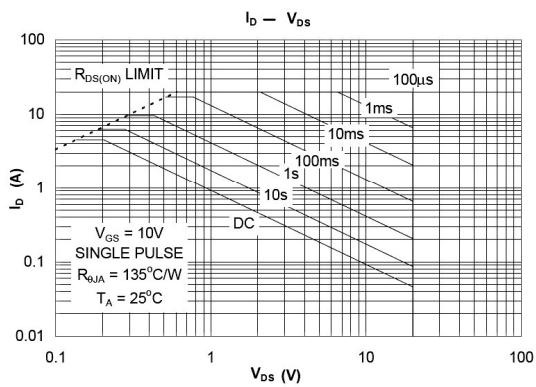
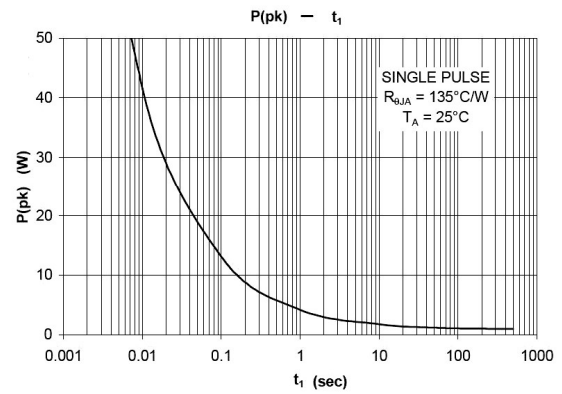
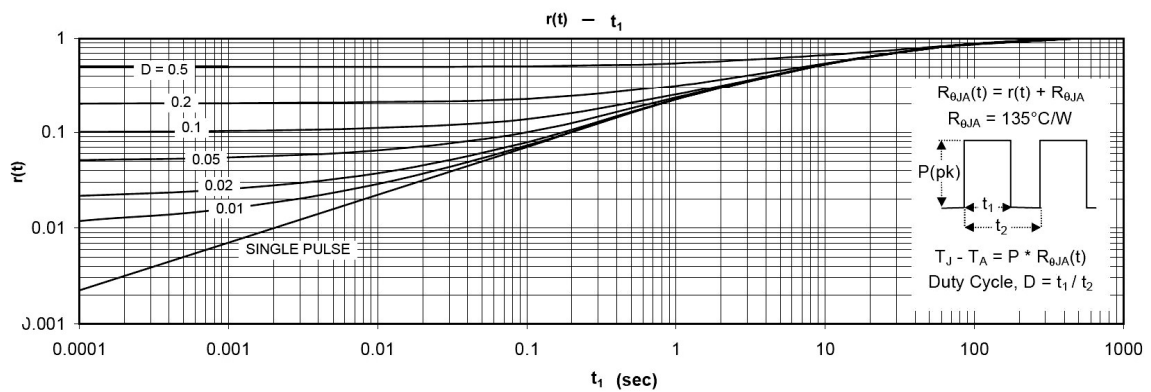
I_S	Continuous Source Current		---	---	1.3	A
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Notes:

1. $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. $R_{\theta JC}$ is guaranteed by design while $R_{\theta JA}$ is determined by the user's board design.

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





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