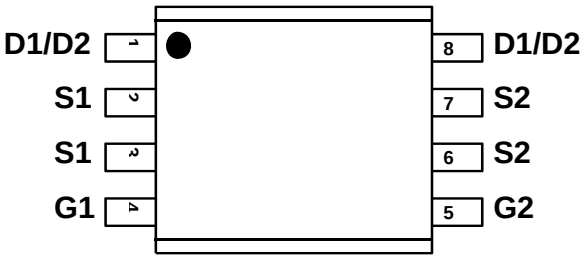
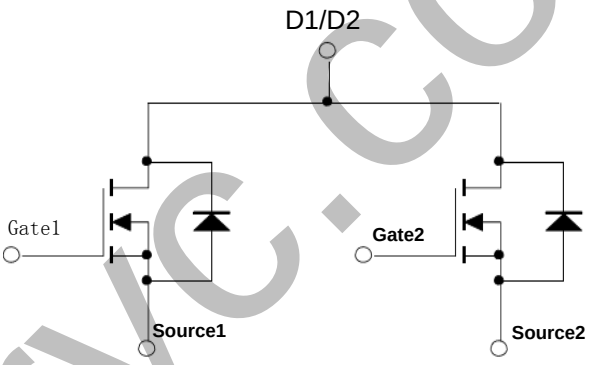
Description

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}=20V,I_D=6A,$R_{DS(ON)}$<28m Ω @V_{gs}=4.5V.
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.





um RatingsT_C=25℃,unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current-	6	A
	Continuous Drain Current-T_C=100℃	-	
	Pulsed Drain Current[1]	20	
E_{AS}	Single Pulse Avalanche Energy	-	mJ
P_D	Power Dissipation	2	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics

Symbol	Parameter	Ratings	Units
$R_{\Theta JC}$	Thermal Resistance,Junction to Case	-	℃/W
$R_{\Theta JA}$	Thermal Resistance,Junction to Ambient	62.5	

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Electrical Characteristics T_C=25℃ unless otherwise noted

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	20	-		V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=20V	-	-	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±12V, V_{DS}=0A	-	-	±100	nA
On Characteristics[3]						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	0.5	-	1.0	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=4.5V,I_D=4.5A	-	22	28	mΩ
		V_{GS}=2.5V,I_D=3.5A	-	30	38	
G_{FS}	Forward Transconductance	V_{DS}=15V, I_D=6A	-	29	-	S
Dynamic Characteristics[4]						
C_{iss}	Input Capacitance	V_{DS}=8V, V_{GS}=0V, f=1MHz	-	522.3	-	pF
C_{oss}	Output Capacitance		-	98.48	-	
C_{rss}	Reverse Transfer Capacitance		-	74.69	-	
R_g	Gate Resistance	f=1MHz	-	-	-	Ω
Switching Characteristics[4]						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=10V,I I_D=6A V_{GS}=4.5V,	-	10.4	20.8	ns
t_r	Rise Time		-	4.4	8.8	ns
$t_{d(off)}$	Turn-Off Delay Time		-	27.36	54.72	ns
t_f	Fall Time		-	4.16	8.32	ns
Q_g	Total Gate Charge	V_{DS}=10V, V_{GS}=4.5V I_D=6A	-	6.24	8.11	nC
Q_{gs}	Gate-Source Charge		-	1.64	2.13	nC
Q_{gd}	Gate-Drain “Miller” Charge		-	1.34	1.74	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[3]	V_{GS}=0V,I_S=1.7A	-	-	1.2	V
t_{rr}	Reverse Recovery Time	I_F=15A,di/dt=10A/μS	-	-	-	ns
Q_{rr}	Reverse Recovery Charge		-	-	-	nC

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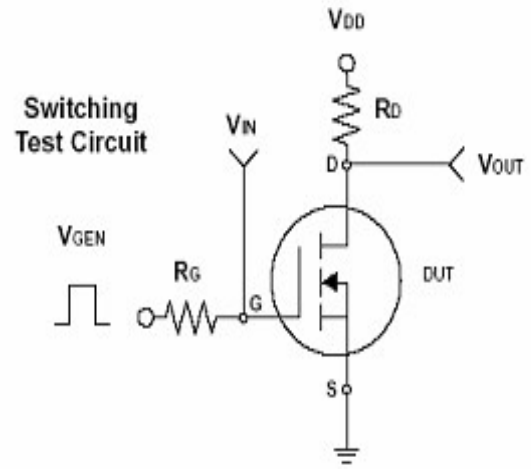
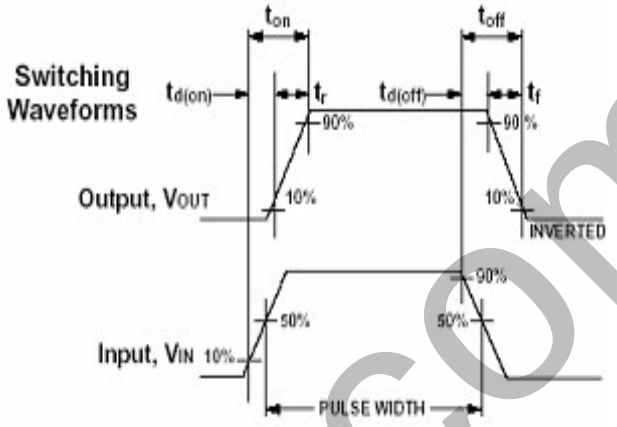
Typical Characteristics T_J=25℃ unless otherwise noted





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