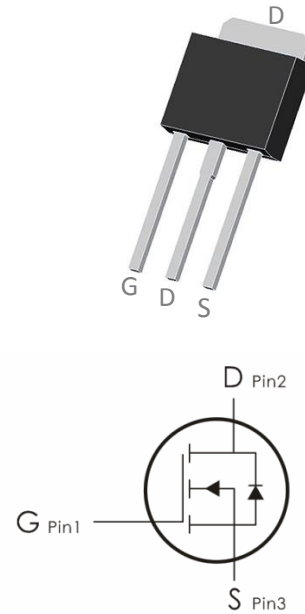


Description:

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) $V_{DS}=100V, I_D=11.3A, R_{DS(ON)} < 120\text{ m}\Omega @ V_{GS}=10V$
- 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	± 20	V
I_D	Continuous Drain Current- $T_C=25^\circ\text{C}$	11.3	A
	Continuous Drain Current- $T_C=70^\circ\text{C}$	9	
I_{DM}	Pulsed Drain Current	45.4	
P_D	Power Dissipation, $T_C=25^\circ\text{C}$	29.9	W
	Derating factor, $T_C=70^\circ\text{C}$	19.1	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +175	$^\circ\text{C}$

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
Off Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\ \mu\text{A}$	100	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS}=0V, V_{DS}=100V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0A$	---	---	± 100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\ \mu\text{A}$	1.2	---	2.4	V
$R_{DS(on)}$	Drain-Source On Resistance	$V_{GS}=10V, I_D=8A$	---	---	120	m Ω
		$V_{GS}=4.5V, I_D=4A$	---	---	150	
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1\text{MHz}$	---	500	---	pF
C_{oss}	Output Capacitance		---	50	---	
C_{rss}	Reverse Transfer Capacitance		---	30	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=30V, R_L=15\Omega$ $V_{GS}=10V, R_G=2.5\Omega$	---	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	$V_{GS}=10V, V_{DS}=30V,$ $I_D=3A$	---	16.8	---	nC
Q_{gs}	Gate-Source Charge		---	5	---	nC
Q_{gd}	Gate-Drain "Miller" Charge		---	4	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage ³	$V_{GS}=0V, I_S=10A$	---	---	1.2	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)

