

Features

- Advanced high cell density Trench technology
- Super Low Gate Charge
- Excellent CdV/dt effect decline
- Green Device Available

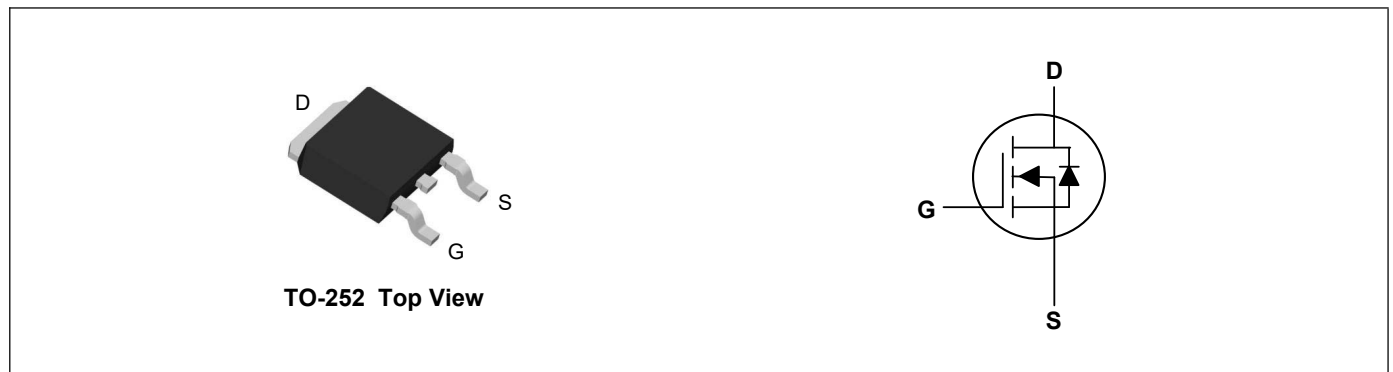
Product Summary



V_{DS}	200	V
I_D	9	A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	290	m Ω

Applications

- High Frequency Point-of-Load, Synchronous Buck Converter
- Networking DC-DC Power System
- Load Switch



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

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 30	V
Continuous Drain Current ¹	I_D	9	A
Pulsed Drain Current ²	I_{DM}	36	A
Single Pulse Avalanche Energy ³	E_{AS}	320	mJ
Total Power Dissipation ⁴	P_D	74	W
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}C$
Operating Junction Temperature Range	T_J	-55 to 150	$^{\circ}C$

Thermal Characteristics

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance Junction-Ambient ¹	$R_{\theta JA}$	---	60	$^{\circ}C/W$
Thermal Resistance Junction-Case ¹	$R_{\theta JC}$	---	1.7	$^{\circ}C/W$

Electrical Characteristics (T_J=25°C, unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	200	---	---	V
Static Drain-Source On-Resistance ²	R _{DS(ON)}	V _{GS} =10V, I _D =4.5A	---	250	290	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =200V, V _{GS} =0V, T _J =25°C	---	---	1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V	---	---	±100	nA
Total Gate Charge	Q _g	V _{DS} =160V, V _{GS} =10V, I _D =2.9A	---	19	---	nC
Gate-Source Charge	Q _{gs}		---	3	---	
Gate-Drain Charge	Q _{gd}		---	5	---	
Turn-On Delay Time	T _{d(on)}	V _{DD} =100V, V _{GS} =10V, R _G =50Ω, I _D =5A	---	24	---	ns
Rise Time	T _r		---	15	---	
Turn-Off Delay Time	T _{d(off)}		---	115	---	
Fall Time	T _f		---	25	---	
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	920	---	pF
Output Capacitance	C _{oss}		---	125	---	
Reverse Transfer Capacitance	C _{rss}		---	25	---	

Drain-Source Diode Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Diode Forward Voltage ²	V _{SD}	V _{GS} =0V, I _S =9A, T _J =25°C	---	---	1.4	V
Reverse Recovery Time	t _{rr}	I _F =9A, V _{GS} =0V di/dt=100A/μs, T _J =25°C	---	190	---	nS
Reverse Recovery Charge	Q _{rr}		---	1.7	---	nC

Note:

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
- 2.The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
- 3.The EAS data shows Max. rating . The test condition is V_{DD}=50V,V_{GS}=10V,L=10mH
- 4.The power dissipation is limited by 150°C junction temperature

Typical Characteristics

