

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
STATIC ELECTRICAL RATINGS					
BV _{DSS}	Drain – Source Breakdown Voltage	V _{GS} = 0 I _D = 1mA	100		V
ΔBV _{DSS} ΔT _J	Temperature Coefficient of Breakdown Voltage	Reference to 25°C I _D = 1mA		0.13	V/°C
R _{DS(on)}	Static Drain – Source On–State Resistance ¹	V _{GS} = 10V I _D = 20A		0.077	Ω
		V _{GS} = 10V I _D = 28A		0.089	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} I _D = 250mA	2	4	V
g _{fs}	Forward Transconductance ¹	V _{DS} ≥ 15V I _{DS} = 20A	9.1		S (V)
I _{DSS}	Zero Gate Voltage Drain Current	V _{GS} = 0 V _{DS} = 0.8BV _{DSS} T _J = 125°C		25 250	μA
I _{GSS}	Forward Gate – Source Leakage	V _{GS} = 20V		100	nA
I _{GSS}	Reverse Gate – Source Leakage	V _{GS} = –20V		–100	
DYNAMIC CHARACTERISTICS					
C _{iss}	Input Capacitance	V _{GS} = 0		1660	pF
C _{oss}	Output Capacitance	V _{DS} = 25V		550	
C _{rss}	Reverse Transfer Capacitance	f = 1MHz		120	
Q _g	Total Gate Charge	V _{GS} = 10V	30	59	nC
Q _{gs}	Gate – Source Charge	I _D = 28A	2.4	12	
Q _{gd}	Gate – Drain (“Miller”) Charge	V _{DS} = 0.5BV _{DSS}	12	30.7	
t _{d(on)}	Turn–On Delay Time	V _{DD} = 50V I _D = 28A R _G = 9.1Ω		21	ns
t _r	Rise Time			145	
t _{d(off)}	Turn–Off Delay Time			21	
t _f	Fall Time			105	
SOURCE – DRAIN DIODE CHARACTERISTICS					
I _S	Continuous Source Current			28	A
I _{SM}	Pulse Source Current ²			112	
V _{SD}	Diode Forward Voltage ¹	I _S = 28A V _{GS} = 0 T _J = 25°C		1.5	V
t _{rr}	Reverse Recovery Time	I _F = 28A T _J = 25°C		400	ns
Q _{rr}	Reverse Recovery Charge ¹	d _i / d _t ≤ 100A/μs V _{DD} ≤ 50V		2.9	μC
t _{on}	Forward Turn–On Time		Negligible		
PACKAGE CHARACTERISTICS					
L _D	Internal Drain Inductance (measured from 6mm down drain lead to centre of die)		5.0		nH
L _S	Internal Source Inductance (from 6mm down source lead to source bond pad)		13		
THERMAL CHARACTERISTICS					
R _{θJC}	Thermal Resistance Junction – Case			1.67	°C/W
R _{θCS}	Thermal Resistance Case – Sink		0.12		
R _{θJA}	Thermal Resistance Junction – Ambient			30	

Notes

1) Pulse Test: Pulse Width $\leq 300\text{ms}$, $\delta \leq 2\%$

2) Repetitive Rating – Pulse width limited by maximum junction temperature.