

Static @ Tj = 25°C (unless otherwise specified)

Parameter	Min.	Typ.	Max.	Units	Conditions
Drain-to-Source Breakdown Voltage $V_{(BR)DSS}$	500	—	—	V	$V_{GS} = 0V, I_p = 250\mu A$
Static Drain to Source On-Resistance $R_{DS(on)}$	—	—	0.52	Ω	$V_{GS} = 10V, I_p = 6.6A$
Gate Threshold Voltage V_{GS}	2.0	—	4.0	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
Drain-to-Source Leakage Current I_{DSS}	—	—	25	μA	$V_{DS} = 500V, V_{GS} = 0V$
	—	—	250		$V_{DS} = 400V, V_{GS} = 0V, T_j = 150^\circ C$
Gate-to-Source Forward Leakage I_{GSS}	—	—	100	nA	$V_{GS} = 30V$
Gate-to-Source Reverse Leakage I_{GSS}	—	—	-100		$V_{GS} = -30V$

Dynamic @ Tj = 25°C (unless otherwise specified)

Parameter	Min.	Typ.	Max.	Units	Conditions	
Forward Transconductance g_{fs}	6.1	—	—	S	$V_{DS} = 50V, I_D = 6.6A$	
Total Gate Charge Q_g	—	—	52	nC	$I_D = 11A$ $V_{DS} = 400V$ $V_{GS} = 10V$	
Gate-to-Source Charge Q_{gs}	—	—	13			
Gate-to-Drain ("Miller") charge Q_{gd}	—	—	18			
Turn-on-Delay Time $t_{d(on)}$	—	14	—	ns	$V_{DD} = 250V$ $I_D = 11A$ $R_G = 9.1\Omega$ $R_D = 22\Omega$	
Rise Time t_r	—	35	—			
Turn-Off-Delay Time $t_{d(off)}$	—	32	—			
Fall time t_f	—	28	—			
Input Capacitance C_{iss}	—	1423	—	pF	$V_{GS} = 0V$ $V_{DS} = 25V$ $f = 1.0MHz$	
Output Capacitance C_{oss}	—	208	—			
Reverse Transfer Capacitance C_{rss}	—	8.1	—			
Output Capacitance C_{oss}	—	2000	—			$V_{GS} = 0V, V_{DS} = 1.0V, f = 1.0MHz$
Output Capacitance C_{oss}	—	55	—			$V_{GS} = 0V, V_{DS} = 400V, f = 1.0MHz$
Effective Output Capacitance $C_{oss\ eff}$	—	97	—			$V_{GS} = 0V, V_{DS} = 0V\ to\ 400V$

Avalanche Characteristics

Parameter		Typ.	Max.	Units
Single Pulse Avalanche Energy	E_{AS}	—	275	mJ
Avalanche Current	I_{AR}	—	11	A
Repetitive Avalanche Energy	E_{AR}	—	17	mJ

Thermal Resistance

Parameter		Typ.	Max.	Units
Junction-to-case	$R_{\theta JC}$	—	1.0	°C/W
Case-to-Sink, flat, Greased Surface	$R_{\theta CS}$	0.50	—	
Junction-to-ambient	$R_{\theta JA}$	—	62	

Diode Characteristics

Parameter		Min.	Typ.	Max.	Units	Conditions
Continuous Source Current	I_S	—	—	11	A	
Pulsed Source Current	I_{SM}	—	—	44		
Diode Forward Voltage	V_{SD}	—	—	1.5	V	$T_j = 25^\circ\text{C}$, $I_S = 11\text{A}$, $V_{GS} = 0\text{V}$
Reverse Recovery Time	t_{rr}	—	510	770	ns	$T_j = 25^\circ\text{C}$, $I_F = 11\text{A}$ $di/dt = 100\text{A}/\mu\text{s}$
Reverse Recovery Charge	Q_{rr}	—	3.4	5.1	uC	
Forward Turn-on Time	t_{on}	Intrinsic turn-on time is negligible				