

■ Features

- Super low on-state resistance:  
 $R_{DS(on)1} = 21\text{ m}\Omega$  MAX. ( $V_{GS} = 10\text{ V}$ ,  $I_D = 10\text{ A}$ )  
 $R_{DS(on)2} = 33\text{ m}\Omega$  MAX. ( $V_{GS} = 4.5\text{ V}$ ,  $I_D = 10\text{ A}$ )  
 $R_{DS(on)3} = 43\text{ m}\Omega$  MAX. ( $V_{GS} = 4\text{ V}$ ,  $I_D = 10\text{ A}$ )
- Low  $C_{iss}$ :  $C_{iss} = 730\text{ pF}$  TYP.
- Built-in gate protection diode

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DS}$	30	V
Gate to source voltage	$V_{GS}$	$\pm 20$	V
Drain current	$I_D$	$\pm 30$	A
	$I_{DP}^*$	$\pm 80$	A
Power dissipation	$P_D$	$T_a = 25^\circ\text{C}$	1.0
		$T_c = 25^\circ\text{C}$	30
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\*  $PW \leq 10\ \mu\text{s}$ , Duty Cycle  $\leq 1\%$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	$I_{DSS}$	$V_{DS} = 30\text{V}, V_{GS} = 0$			10	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	1.5	2.0	2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 10\text{A}$	5	10		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 10\text{A}$		17.2	21	$\text{m}\Omega$
		$V_{GS} = 4.5\text{V}, I_D = 10\text{A}$		26	33	$\text{m}\Omega$
		$V_{GS} = 4.0\text{V}, I_D = 10\text{A}$		33	43	$\text{m}\Omega$
Input capacitance	$C_{iss}$	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		730		pF
Output capacitance	$C_{oss}$			250		pF
Reverse transfer capacitance	$C_{rss}$			120		pF
Turn-on delay time	$t_{on}$			28		ns
Rise time	$t_r$	$I_D = 10\text{A}, V_{GS(on)} = 10\text{V}, R_G = 10\ \Omega, V_{DD} = 15\text{V}$		420		ns
Turn-off delay time	$t_{off}$			47		ns
Fall time	$t_f$			64		ns
Total Gate Charge	$Q_G$	$V_{DD} = 24\text{V}, V_{GS} = 10\text{V}, I_D = 20\text{A}$		15		nC
Gate to Source Charge	$Q_{GS}$			2.8		nC
Gate to Drain Charge	$Q_{GD}$			4.1		nC

