

2SK2790(Tentative)

Silicon N-Channel Power F-MOS

■ Features

- Low ON-resistance $R_{DS(on)}$
- High-speed switching
- No secondary breakdown

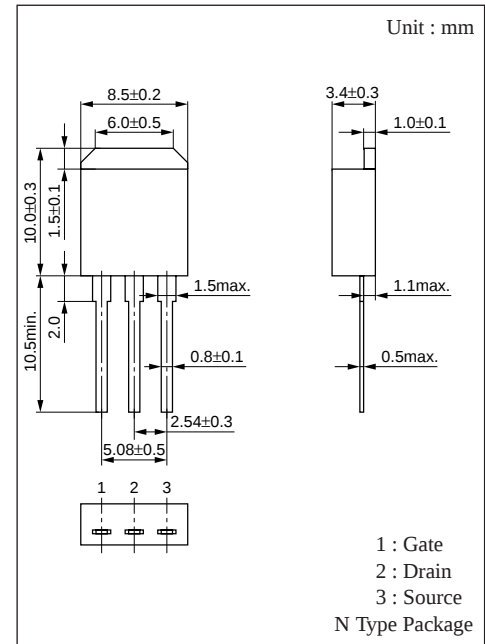
■ Applications

- High-speed switching
- Motor drive

■ Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	V_{DSS}	250	V
Gate-Source voltage	V_{GSS}	± 20	V
Drain current	I_D	± 5	A
Max drain current	I_{DP}	± 10	A
Allowable power dissipation	P_D	1.3	W
	P_D^*	40	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

* $T_C = 25^\circ\text{C}$



■ Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I_{DSS}	$V_{DS} = 200\text{V}, V_{GS} = 0$			100	μA
Gate-Source leakage current	I_{GSS}	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			± 1	μA
Drain-Source breakdown voltage	V_{DSS}	$I_D = 1\text{mA}, V_{GS} = 0$	250			V
Gate threshold voltage	V_{th}	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	1		5	V
Drain-Source ON-resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 3\text{A}$		0.45	0.7	Ω
Forward transadmittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 3\text{A}$	1.8	3		S
Input capacitance	C_{iss}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		390		pF
Output capacitance	C_{oss}			160		pF
Feedback capacitance	C_{rss}			80		pF
Turn-on time	t_{on}	$V_{GS} = 10\text{V}, I_D = 3\text{A}$ $V_{DD} = 100\text{V}, R_L = 33.3\Omega$		30		ns
Fall time	t_f			45		ns
Turn-off time (delay time)	$t_{d(off)}$			90		ns