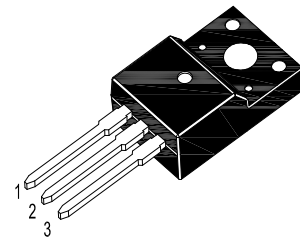
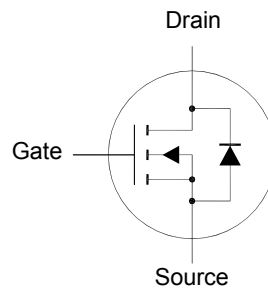


# SFTN0780

## N-Channel Enhancement Mode Power MOSFET



TO-220F Plastic Package  
1.Gate 2.Drain 3.Source

### Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	800	V
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Drain Current - Continuous	$I_D$	7	A
Drain Current - Pulsed <sup>1)</sup>	$I_{DM}$	26.4	A
Power Dissipation	$P_{tot}$	48	W
Operating Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	- 55 to + 150	°C

<sup>1)</sup> Pulse width limited by maximum junction temperature

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Maximum Thermal Resistance from Junction to Case	$R_{\theta JC}$	2.6	°C/W
Maximum Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	°C/W

**Winning  
Team**  
互創國際

# SFTN0780

## Characteristics at $T_C = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250 \mu\text{A}$	$BV_{DSS}$	800	-	-	V
Drain-Source Leakage Current at $V_{DS} = 800 \text{ V}$ at $V_{DS} = 640 \text{ V}$ , $T_C = 125^\circ\text{C}$	$I_{DSS}$	- -	- -	10 100	$\mu\text{A}$
Gate Leakage Current at $V_{GS} = \pm 30 \text{ V}$	$I_{GSS}$	-	-	$\pm 100$	nA
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}$ , $I_D = 250 \mu\text{A}$	$V_{GS(th)}$	3	-	5	V
Drain-Source On-State Resistance at $V_{GS} = 10 \text{ V}$ , $I_D = 3.3 \text{ A}$	$R_{DS(on)}$	-	-	1.9	$\Omega$
Forward Transconductance at $V_{DS} = 50 \text{ V}$ , $I_D = 3.3 \text{ A}$	$g_{FS}$	-	5.5	-	S
Diode Forward Voltage at $I_S = 6.6 \text{ A}$ , $V_{GS} = 0 \text{ V}$	$V_{SD}$	-	-	1.4	V
Maximum Body-Diode Continuous Current	$I_S$	-	-	6.6	A
Input Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{iss}$	-	-	1680	pF
Output Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{oss}$	-	-	155	pF
Reverse Transfer Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{rss}$	-	-	13	pF
Turn-On Delay Time at $I_D = 6.6 \text{ A}$ , $V_{DD} = 400 \text{ V}$ , $R_G = 25 \Omega$	$t_{d(on)}$	-	-	80	ns
Turn-On Rise Time at $I_D = 6.6 \text{ A}$ , $V_{DD} = 400 \text{ V}$ , $R_G = 25 \Omega$	$t_r$	-	-	210	ns
Turn-Off Delay Time at $I_D = 6.6 \text{ A}$ , $V_{DD} = 400 \text{ V}$ , $R_G = 25 \Omega$	$t_{d(off)}$	-	-	110	ns
Turn-Off Fall Time at $I_D = 6.6 \text{ A}$ , $V_{DD} = 400 \text{ V}$ , $R_G = 25 \Omega$	$t_f$	-	-	130	ns

