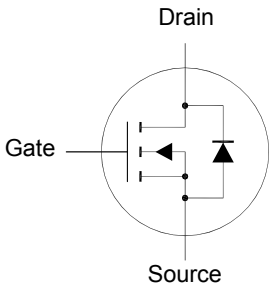
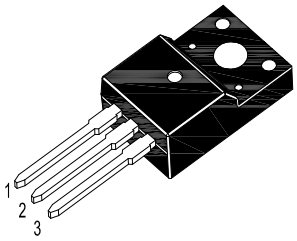
SFTN0780

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}	± 30	V
Drain Current - Continuous	I_D	7	A
Drain Current - Pulsed [1)]	I_{DM}	26.4	A
Power Dissipation	P_{tot}	48	W
Operating Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

[1)] Pulse width limited by maximum junction temperature

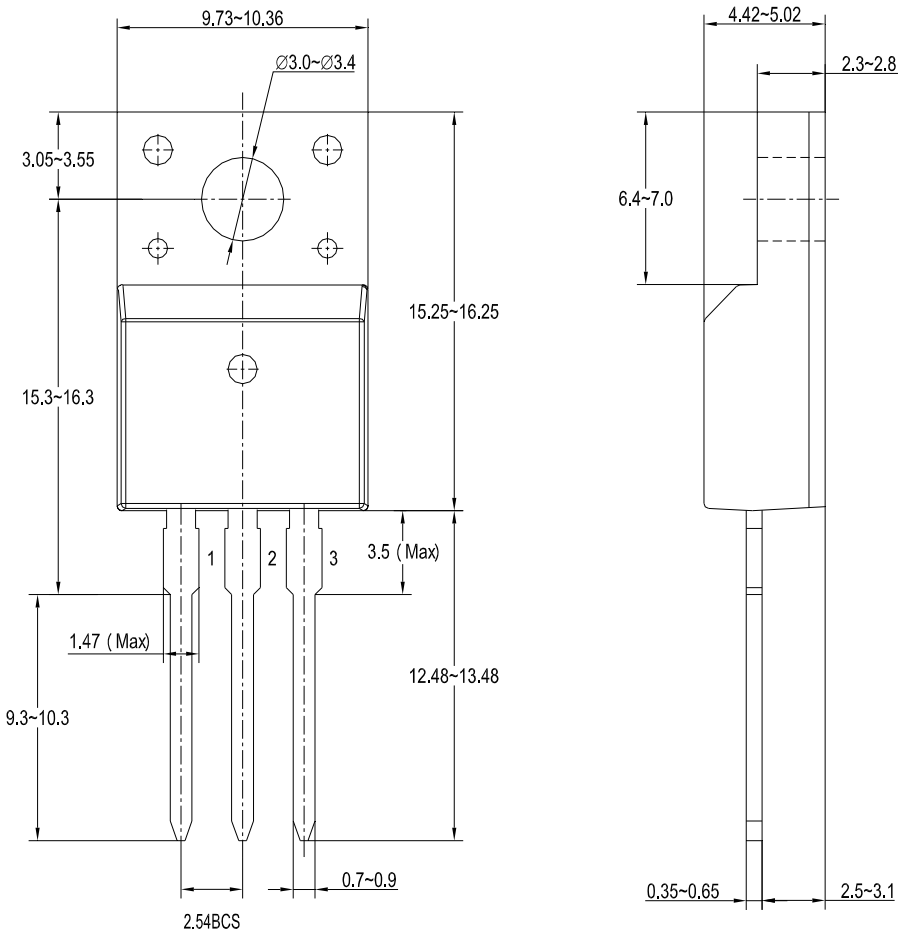
Thermal Characteristics

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

Characteristics at T_C = 25℃ unless otherwise specified

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

TO-220F Package Outline



Dimensions in millimeters