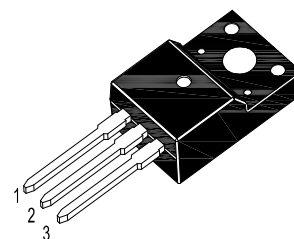
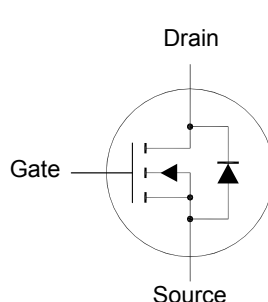


SFTN0780

N-Channel Enhancement Mode Power MOSFET



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

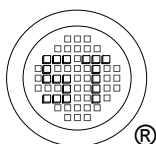
Absolute Maximum Ratings

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	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

¹⁾ 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



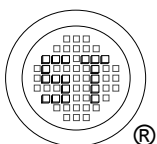
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Characteristics at $T_C = 25^\circ\text{C}$ unless otherwise specified

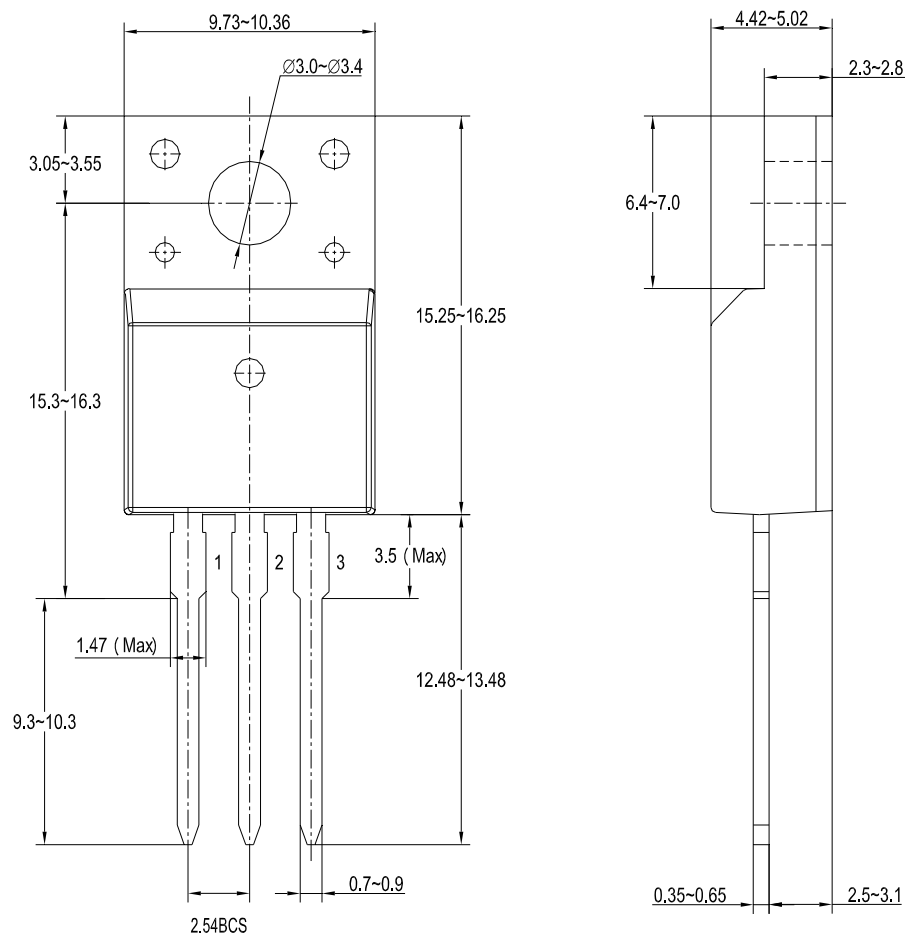
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250\ \mu\text{A}$	BV_{DS}	800	-	-	V
Drain-Source Leakage Current at $V_{DS} = 800\ \text{V}$ at $V_{DS} = 640\ \text{V}$, $T_C = 125^\circ\text{C}$	I_{DSS}	- -	- -	10 100	μA
Gate Leakage Current at $V_{GS} = \pm 30\ \text{V}$	I_{GSS}	-	-	± 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	Ω
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
Maximun 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



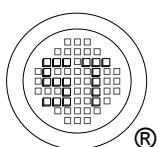
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TO-220F Package Outline



Dimensions in millimeters



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