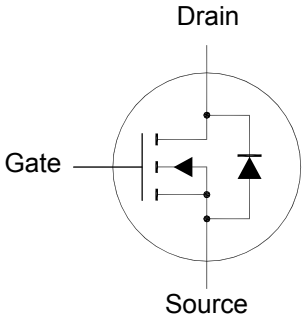
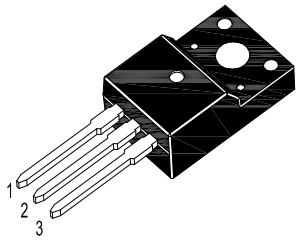
SFTN1850

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}	500	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current [1] T_C = 25℃ T_C = 100℃	I_D	18 11	A
Peak Drain Current [1] [2]	I_{DM}	72	A
Avalanche energy,single pulse [3]	E_{AS}	950	mJ
Power Dissipation T_C = 25℃	P_{tot}	37	W
Maximum Thermal Resistance from Juntion to Case [2]	$R_{\theta JC}$	3.4	℃/W
Maximum Thermal Resistance from Juntion to Ambient [2]	$R_{\theta JA}$	62.5	℃/W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150	℃

[1] Id limited by maximum junction temperature.
[2] Pulse width is based on $R_{\theta JC}$ & $R_{\theta JA}$ and the maximum allowed junction temperature of 150°C.
[3] L = 5.3 mH, I_{AS} = 18.0 A,V_{DD} = 50 V,Rg = 25Ω,Starting Tj = 25 °C.

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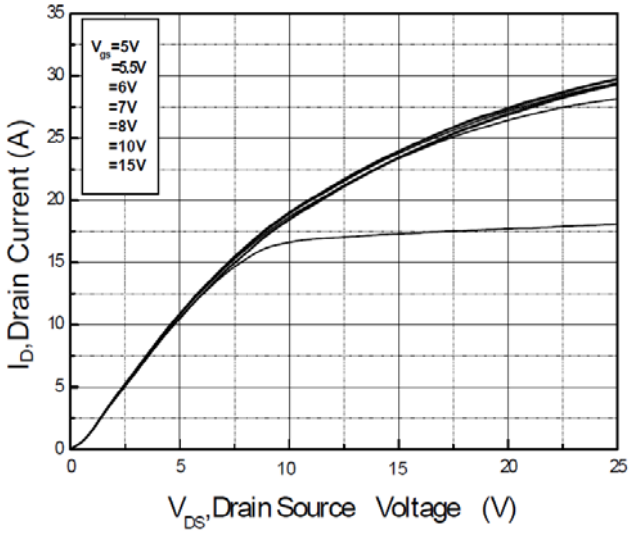
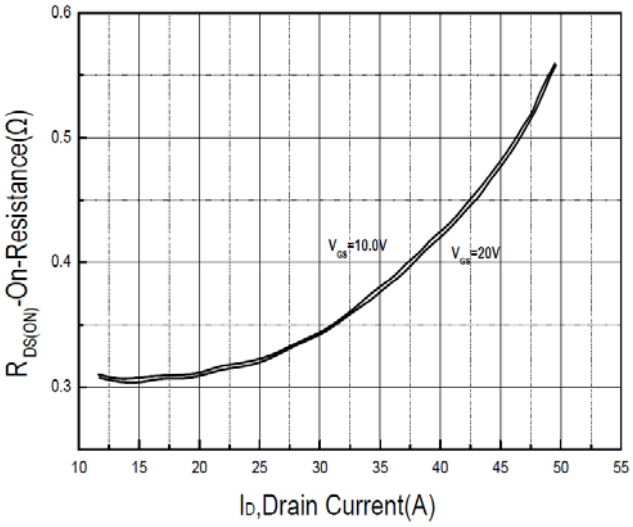
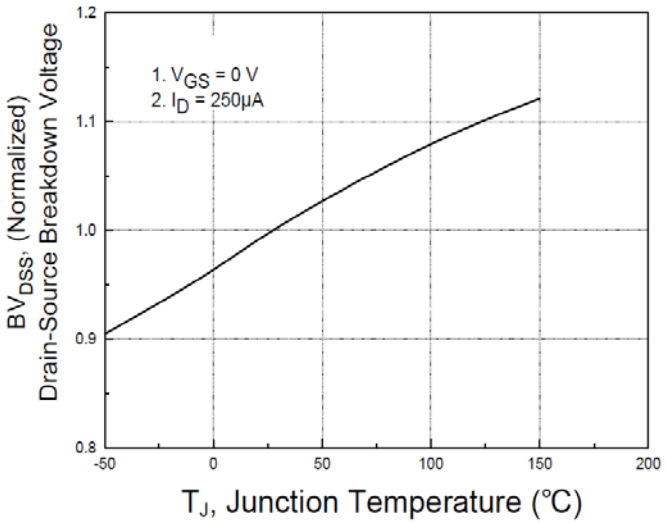
Dated: 10/01/2018

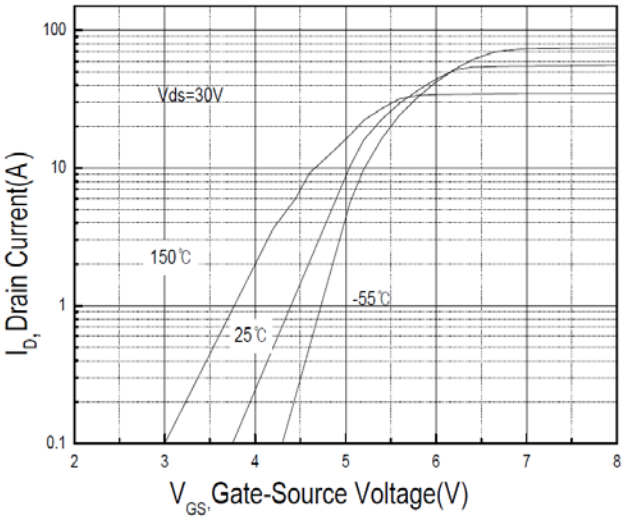
Characteristics at T_J = 25℃ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 250 μA	BV_{DSS}	500	-	-	V
Drain-Source Leakage Current at V_{DS} = 500 V	I_{DSS}	-	-	1	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	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 9 A	$R_{DS(on)}$	-	-	0.27	Ω
Forward Transconductance at V_{DS} = 40 V, I_D = 9 A	g_{fs}	-	13	-	S
Input Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	2,490	-	pF
Output Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	13	-	pF
Reverse Transfer Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	307	-	pF
Turn-On Delay Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 18 A, R_G= 25 Ω	$t_{d(on)}$	-	32	-	ns
Turn-On Rise Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 18 A, R_G= 25 Ω	t_r	-	82	-	ns
Turn-Off Delay Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 18 A, R_G= 25 Ω	$t_{d(off)}$	-	222	-	ns
Turn-Off Fall Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 18 A, R_G= 25 Ω	t_f	-	75	-	ns
Diode Forward Voltage at I_S = 18 A	V_{SD}	-	-	1.4	V









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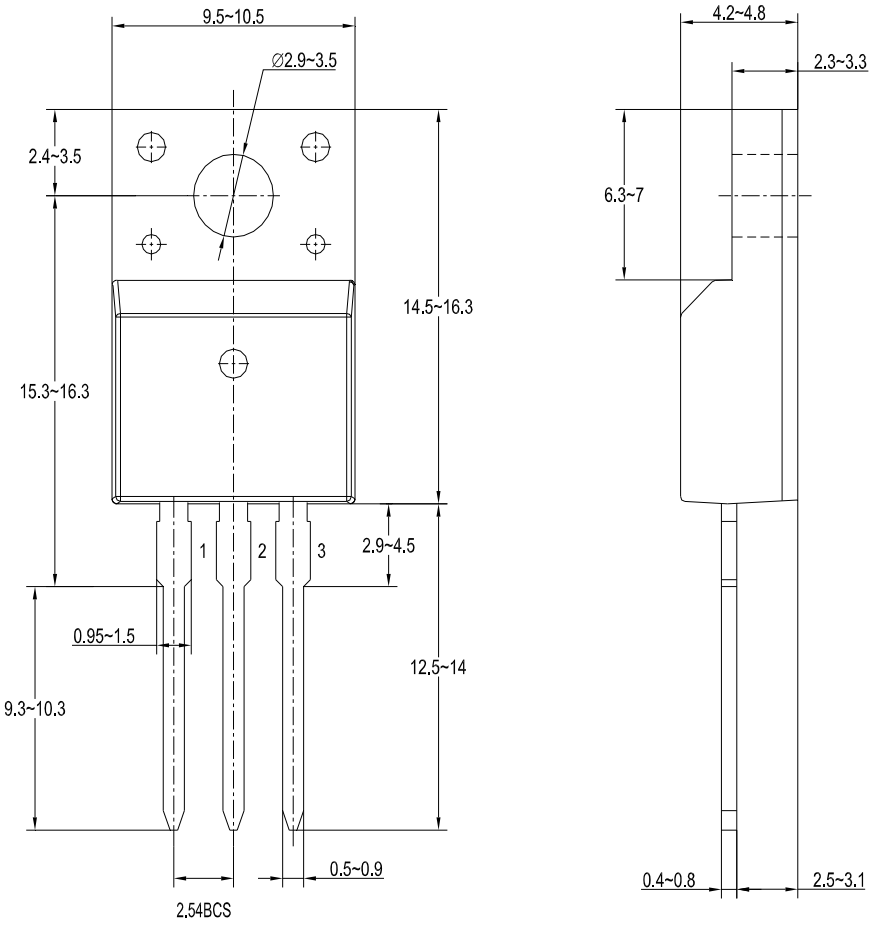
Package Outline(Dimension in mm) TO-220F



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