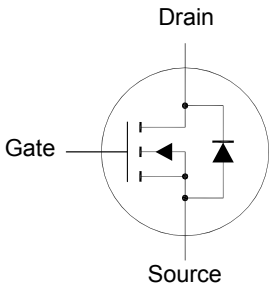
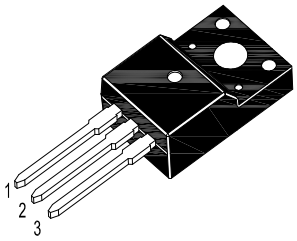
SFTN3568

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	I_D	12	A
Peak Drain Current t = 1 ms	I_{DM}	48	A
Power Dissipation	Ptot	40	W
Single Pulse Avalanche energy [1)]	E_{AS}	364	mJ
Storage Temperature	T_{stg}	- 55 to + 150	℃
Operating Junction Temperature	T_J	150	℃

[1)] V_{DD} = 90 V, T_{ch} = 25°C(initial), L = 4.3 mH, I_{AR} = 12 A, R_G = 25 Ω.

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Maximum Thermal Resistance from Juntion to Case	$R_{\theta JC}$	3.125	℃/W
Maximum Thermal Resistance from Juntion to Ambient	$R_{\theta JA}$	62.5	℃/W

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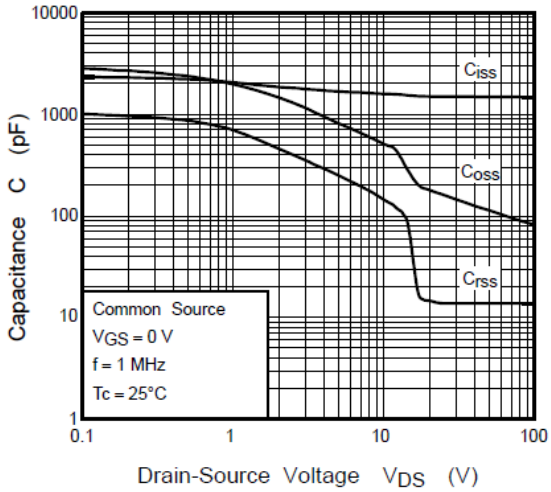
Characteristics at T_J = 25℃ unless otherwise specified

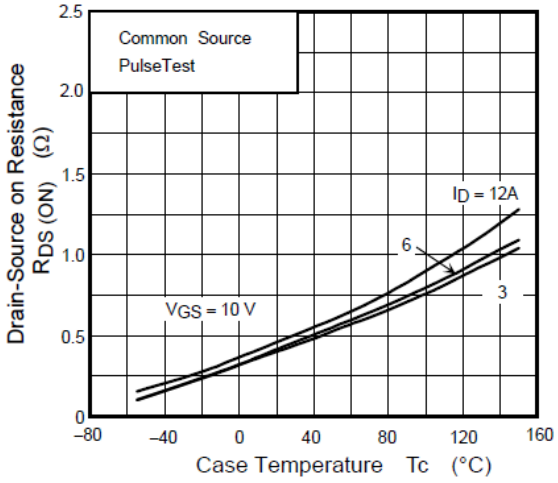
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 10 mA	BV_{DSS}	500	-	-	V
Drain-Source Leakage Current at V_{DS} = 500 V	I_{DSS}	-	-	100	μA
Gate Leakage Current at V_{GS} = ±25 V	I_{GSS}	-	-	±10	μA
Gate-Source Threshold Voltage at V_{DS} = 10 V, I_D = 1 mA	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 6 A	$R_{DS(on)}$	-	-	0.52	Ω
Forward Transfer Admittance at V_{DS} = 10 V, I_D = 6 A	$\|y_{fs}\|$	3.5	-	-	S
Input Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	1500	-	pF
Output Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	180	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	15	-	pF
Turn-On Delay Time [1] at I_D = 6 A, V_{DD} = 200 V, V_{GS} = 10 V, R_L= 33 Ω	$t_{d(on)}$	-	50	-	ns
Turn-On Rise Time [1] at I_D = 6 A, V_{DD} = 200 V, V_{GS} = 10 V, R_L= 33 Ω	t_r	-	22	-	ns
Turn-Off Delay Time [1] at I_D = 6 A, V_{DD} = 200 V, V_{GS} = 10 V, R_L= 33 Ω	$t_{d(off)}$	-	170	-	ns
Turn-Off Fall Time [1] at I_D = 6 A, V_{DD} = 200 V, V_{GS} = 10 V, R_L= 33 Ω	t_f	-	36	-	ns

[1] Duty ≦ 1%, tw = 10 μs.

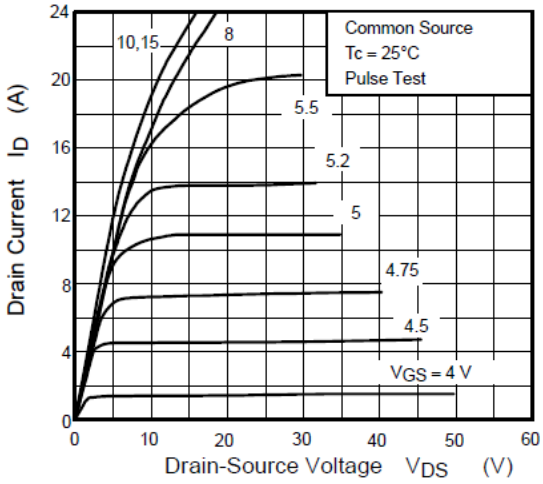
Capacitance – V_{DS}



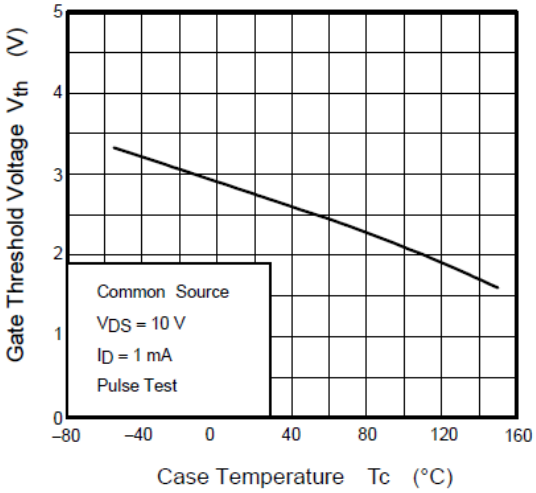
$R_{DS\ (ON)}$ – Tc



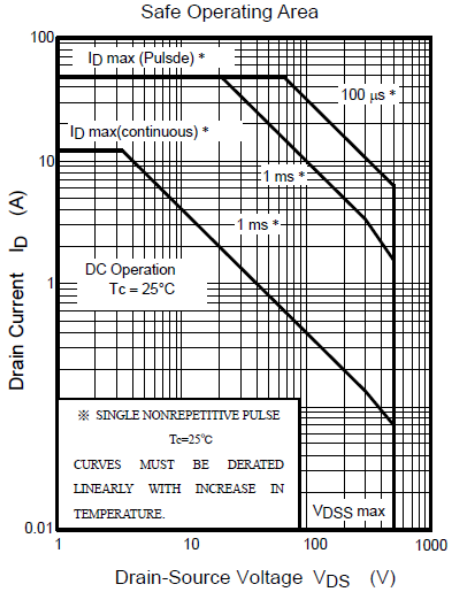
I_D – V_{DS}



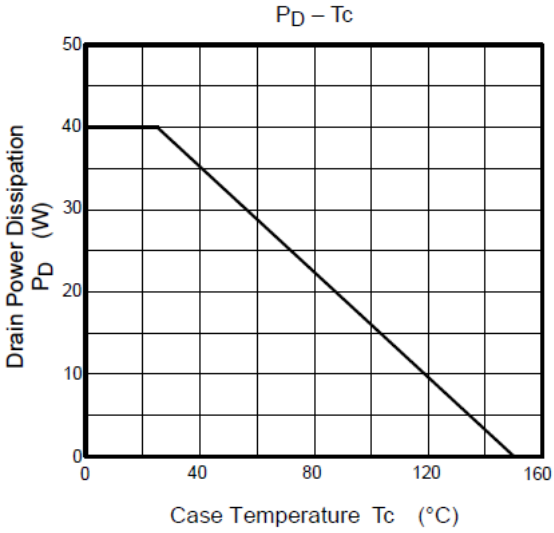
V_{th} – Tc



Safe Operating Area



P_D – Tc



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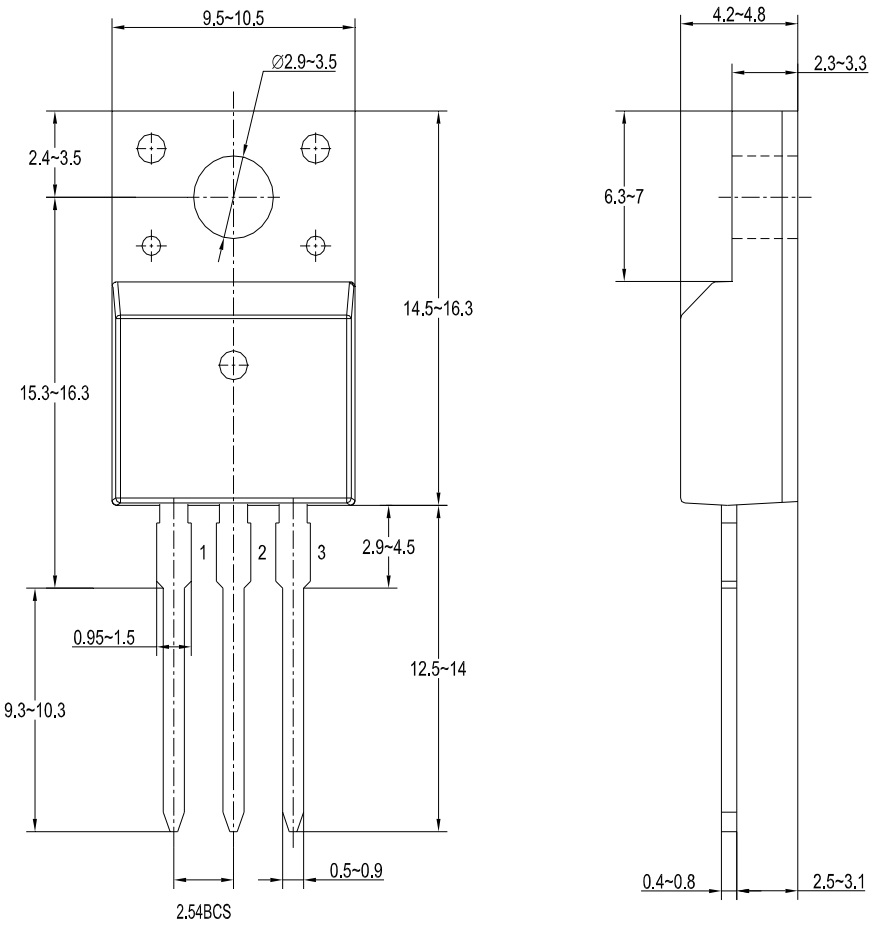
TO-220F Package Outline



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