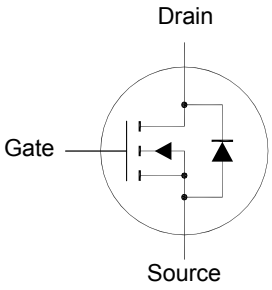
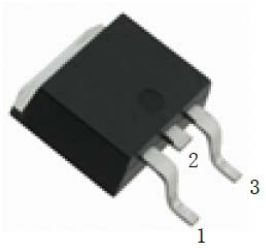
SFTN1450R

N-Channel Enhancement Mode MOSFET





1.Gate 2.Drain 3.Source

TO-252 Plastic Package

Absolute Maximum Ratings

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	500	V
Gate-Source Voltage		V_{GS}	± 25	V
Drain Current	T_C = 25℃	I_D	12	A
Drain Current	T_C = 100℃	I_D	8	A
Pulsed Drain Current [1)]		I_{DM}	48	A
Power Dissipation	T_C = 25℃	P_D	90	W
Maximum Thermal Resistance from Juntion to Case		$R_{\theta JC}$	1.39	℃/W
Operating Junction and Storage Temperature Range		T_J, T_{stg}	- 55 to + 150	℃

[1)] Pulse width limited by safe operating area.

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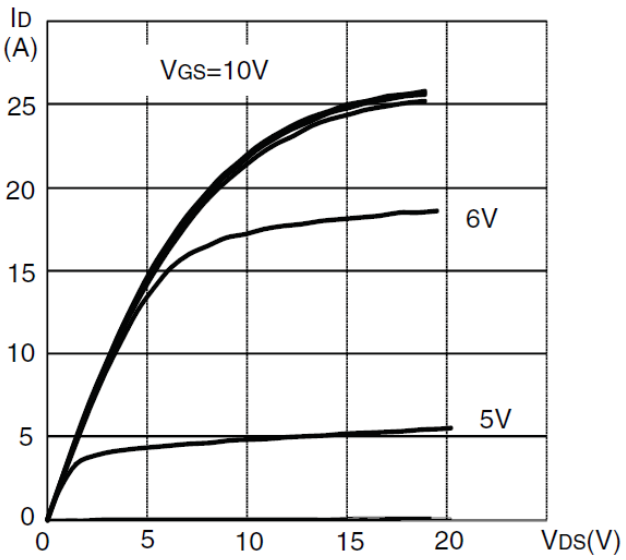
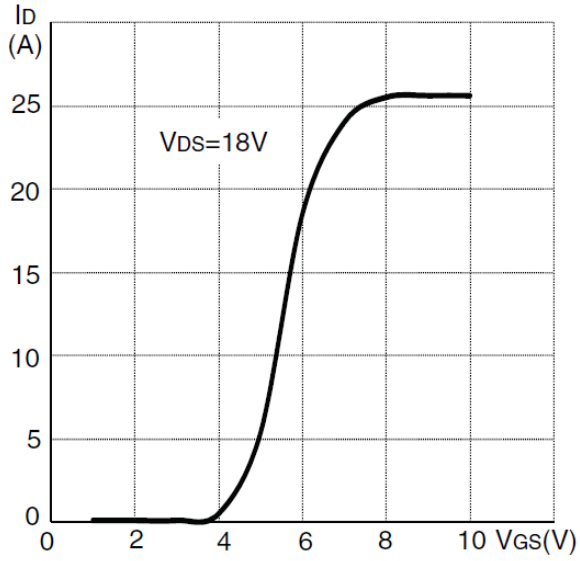
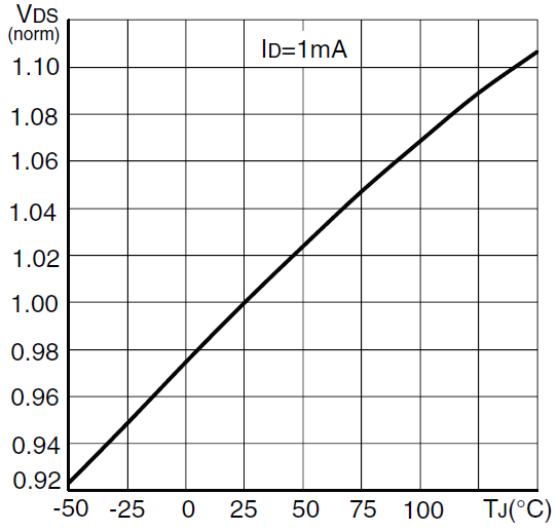
Characteristics at Ta = 25℃ unless otherwise specified

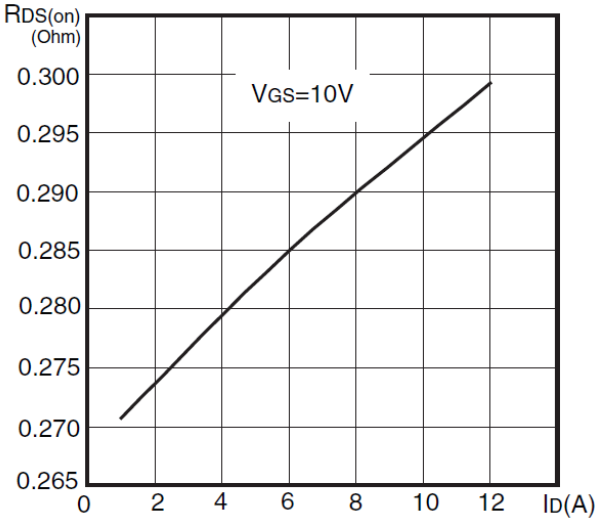
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 1 mA	BV_{DSS}	500	-	-	V
Drain-Source Leakage Current at V_{DS} = 500 V at V_{DS} = 500 V, T_C = 125℃	I_{DSS}	- -	- -	1 100	μA
Gate Leakage Current at V_{GS} = ± 25 V	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage at V_{DS} = V_{GS}, I_D = 100 μA	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 6 A	$R_{DS(on)}$	-	-	320	mΩ
Input Capacitance at V_{GS} = 0 V, V_{DS} = 50 V, f = 1 MHz	C_{iss}	-	816	-	pF
Output Capacitance at V_{GS} = 0 V, V_{DS} = 50 V, f = 1 MHz	C_{oss}	-	60	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V, V_{DS} = 50 V, f = 1 MHz	C_{rss}	-	3	-	pF
Turn-On Delay Time at I_D = 12 A, V_{DD} = 400 V, V_{GS} = 10 V, R_G= 4.7 Ω	$t_{d(on)}$	-	10.2	-	nS
Turn-On Rise Time at I_D = 12 A, V_{DD} = 400 V, V_{GS} = 10 V, R_G= 4.7 Ω	t_r	-	16	-	nS
Turn-Off Delay Time at I_D = 12 A, V_{DD} = 400 V, V_{GS} = 10 V, R_G= 4.7 Ω	$t_{d(off)}$	-	42	-	nS
Turn-Off Fall Time at I_D = 12 A, V_{DD} = 400 V, V_{GS} = 10 V, R_G= 4.7 Ω	t_f	-	22	-	nS
Drain-Source Diode Forward Voltage [1)] at I_{SD} = 12 A	V_{SD}	-	–	1.6	V

[1)] Pulsed: pulse duration = 300μs, duty cycle 1.5%.









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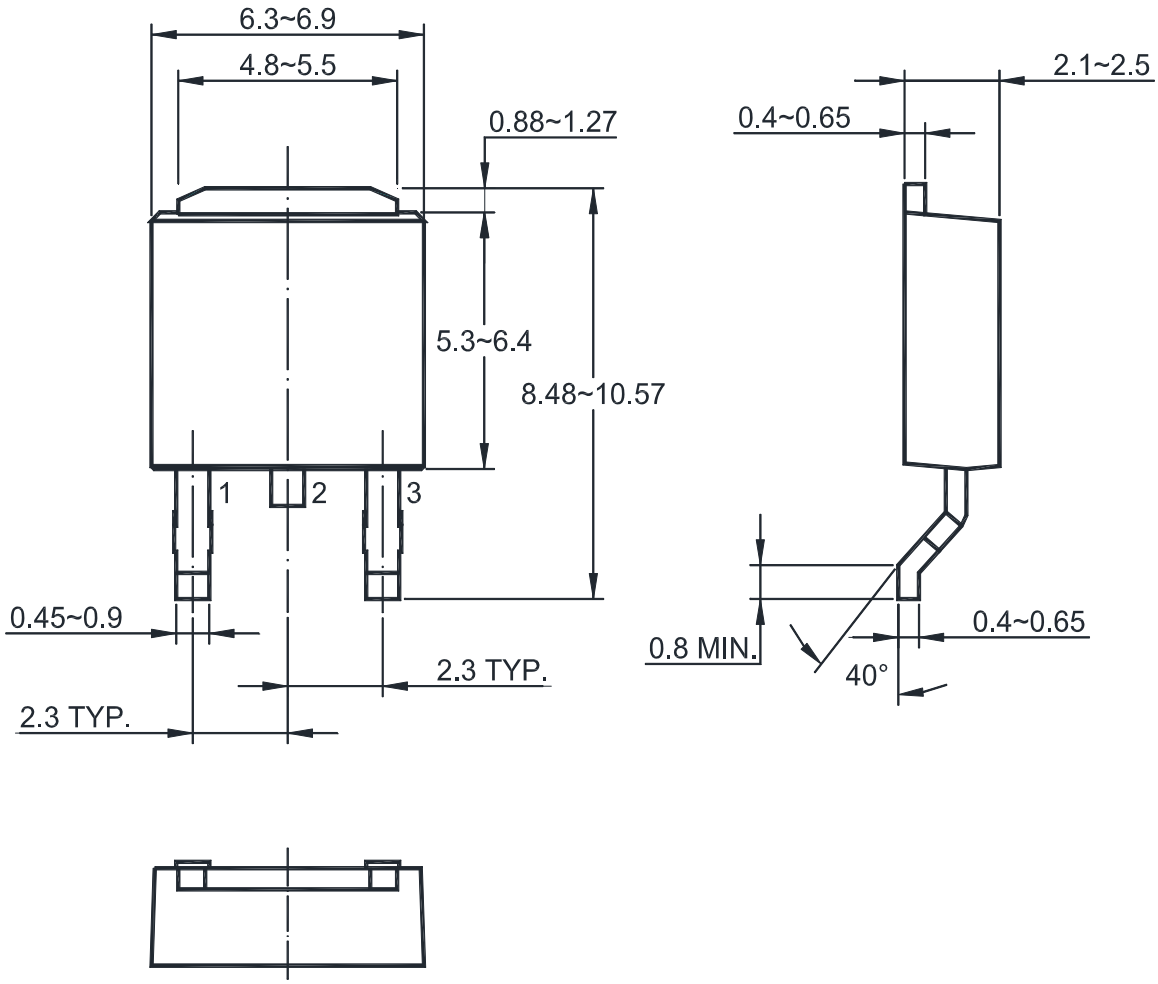
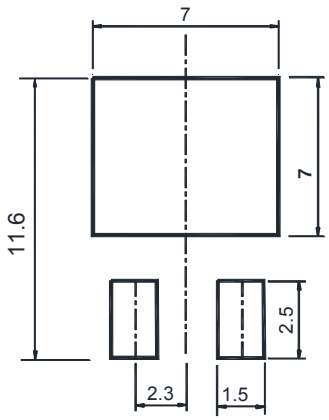
TO-252 PACKAGE OUTLINE



Recommended Soldering Footprint



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