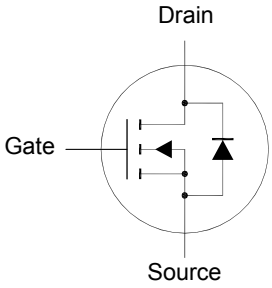
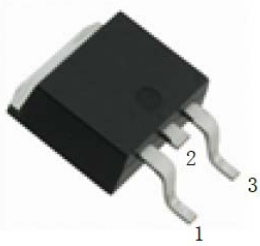
SFTN1165R

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}	650	V
Gate-Source Voltage		V_{GS}	± 30	V
Drain Current	T_C = 25℃	I_D	11	A
Drain Current	T_C = 100℃	I_D	6.9	A
Pulsed Drain Current		I_{DM}	28	A
Power Dissipation	T_C = 25℃	P_D	83.3	W
Operating Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Maximum Thermal Resistance from Juntion to Case	$R_{\theta JC}$	1.5	℃/W
Maximum Thermal Resistance from Juntion to Ambient	$R_{\theta JA}$	62.5	℃/W

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Characteristics at T_C = 25℃ unless otherwise specified

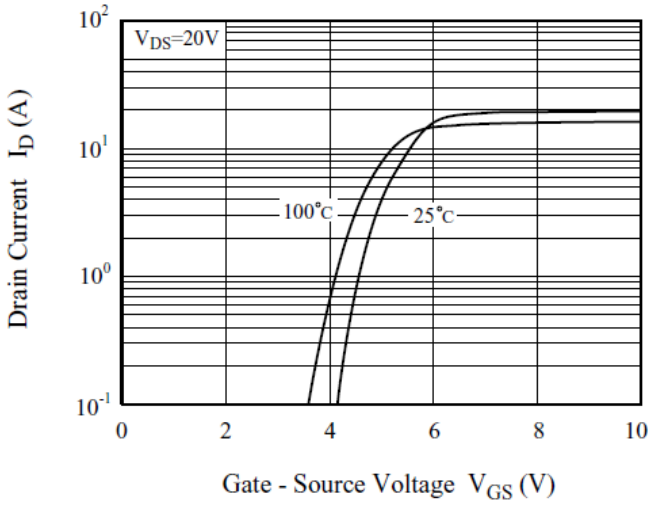
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 250 μA	BV_{DSS}	650	-	-	V
Drain-Source Leakage Current at V_{DS} = 650 V	I_{DSS}	-	-	10	μA
Gate Leakage Current at V_{GS} = ± 30 V	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage at V_{DS} = V_{GS}, I_D = 250 μA	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 5.5 A	$R_{DS(on)}$	-	-	380	mΩ
Input Capacitance at V_{GS} = 0 V, V_{DS} = 40 V, f = 1 MHz	C_{iss}	-	740	-	pF
Output Capacitance at V_{GS} = 0 V, V_{DS} = 40 V, f = 1 MHz	C_{oss}	-	70	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V, V_{DS} = 40 V, f = 1 MHz	C_{rss}	-	3	-	pF
Turn-On Delay Time [1) 2)] at I_D = 11 A, V_{DD} = 325 V, R_G= 25 Ω	$t_{d(on)}$	-	25	-	ns
Turn-On Rise Time [1) 2)] at I_D = 11 A, V_{DD} = 325 V, R_G= 25 Ω	t_r	-	40	-	ns
Turn-Off Delay Time [1) 2)] at I_D = 11 A, V_{DD} = 325 V, R_G= 25 Ω	$t_{d(off)}$	-	90	-	ns
Turn-Off Fall Time [1) 2)] at I_D = 11 A, V_{DD} = 325 V, R_G= 25 Ω	t_f	-	35	-	ns

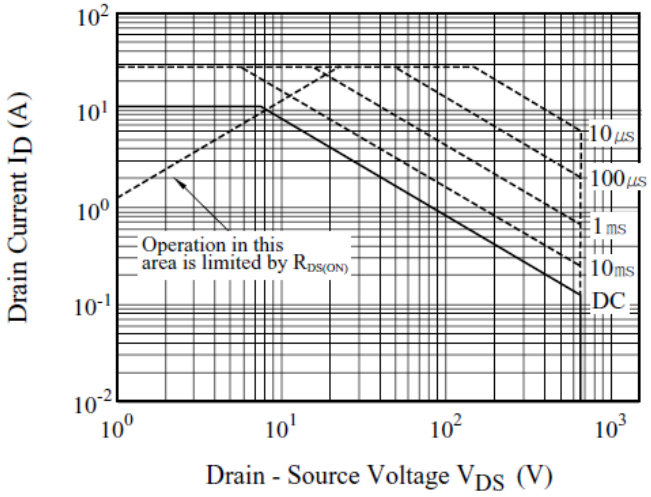
Drain-Source Body Diode Rating Characteristics

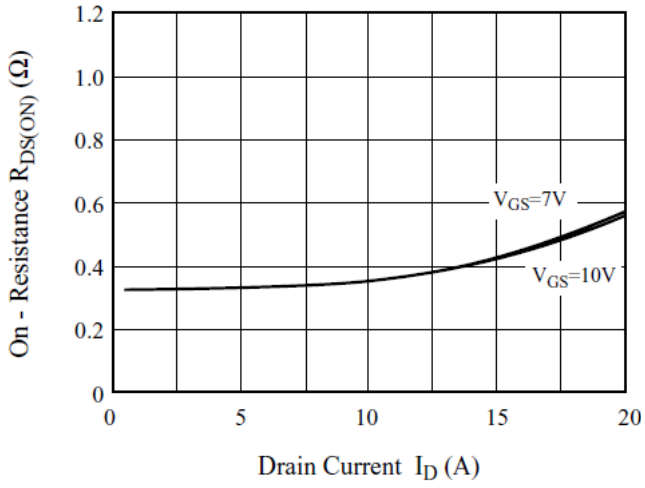
Parameter	Symbol	Max.	Unit
Drain-Source Diode Forward Voltage at I_{SD} = 11 A	V_{SD}	1.4	V

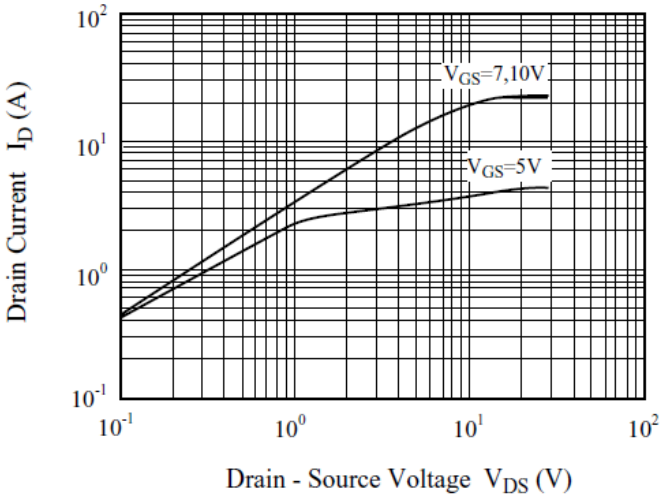
[1)] Pulse Test : Pulse width ≤ 10 μs, Duty Cycle ≤ 2%.

[2)] Essentially independent of operating temperature.









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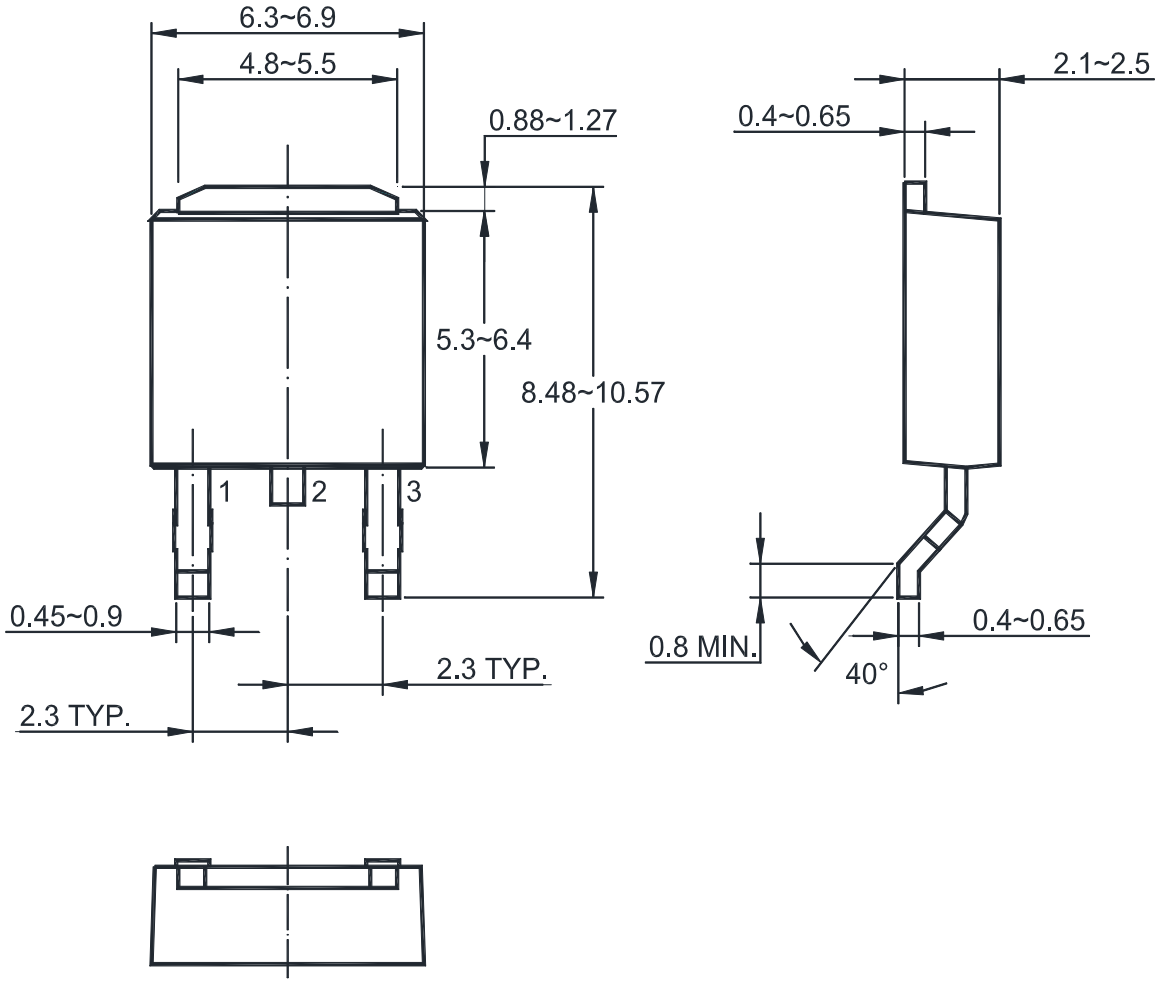
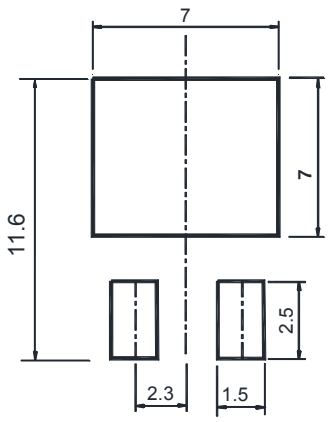
TO-252 PACKAGE OUTLINE



Recommended Soldering Footprint



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