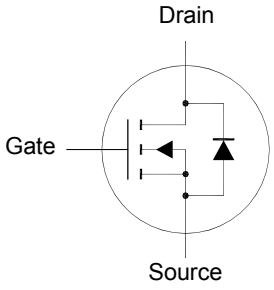
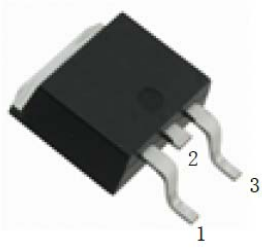
SFTN5038R

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}	± 30	V
Drain Current T_C = 25℃ T_C = 100℃	I_D	11 6.95	A
Pulsed Drain Current	I_{DM}	33	A
Power Dissipation T_C = 25℃	P_D	83	W
Avalanche energy,single pulse	E_{AS}	220	mJ
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
Operating Junction Temperature Range	T_J	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

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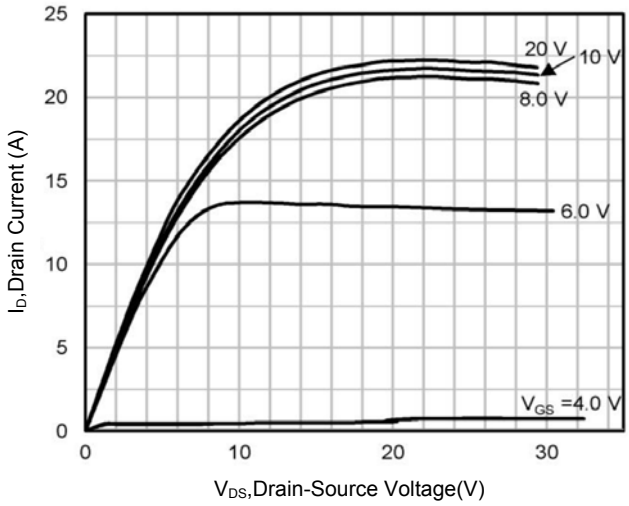
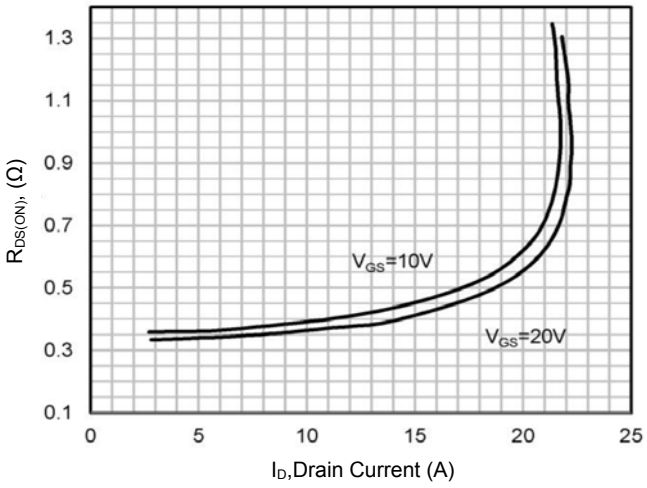
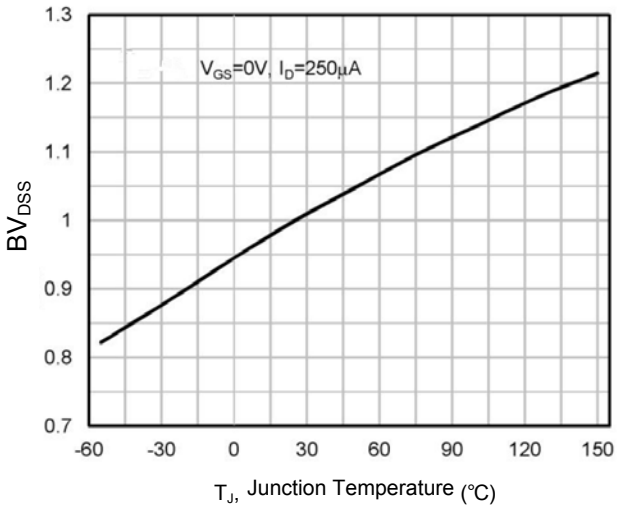
Dated: 19/01/2018

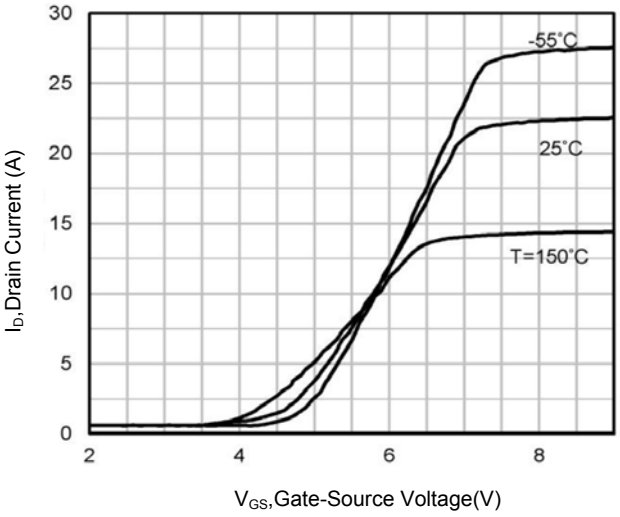
Characteristics at Ta = 25℃ unless otherwise specified

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	$V_{GS(th)}$	2.5	-	3.5	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 3.8 A	$R_{DS(on)}$	-	-	380	mΩ
Input Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	702	-	pF
Output Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	357	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	33.7	-	pF
Turn-On Delay Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 11 A, R_G= 25 Ω	$t_{d(on)}$	-	15.2	-	nS
Turn-On Rise Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 11 A, R_G= 25 Ω	t_r	-	32	-	nS
Turn-Off Delay Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 11 A, R_G= 25 Ω	$t_{d(off)}$	-	59.6	-	nS
Turn-Off Fall Time at V_{DD} = 250 V, V_{GS} = 10 V, I_D = 11 A, R_G= 25 Ω	t_f	-	28.4	-	nS
Drain-Source Diode Forward Voltage at I_{SD} = 11 A	V_{SD}	-	-	1.4	V


20 V
10 V
8.0 V
6.0 V
VGS =4.0 V
ID,Drain Current (A)
VDS,Drain-Source Voltage(V)


VGS=10V
VGS=20V
RDS(ON), (Ω)
ID,Drain Current (A)


VGS=0V, ID=250μA
BVDSS
TJ, Junction Temperature (°C)


-55°C
25°C
T=150°C
ID,Drain Current (A)
VGS,Gate-Source Voltage(V)

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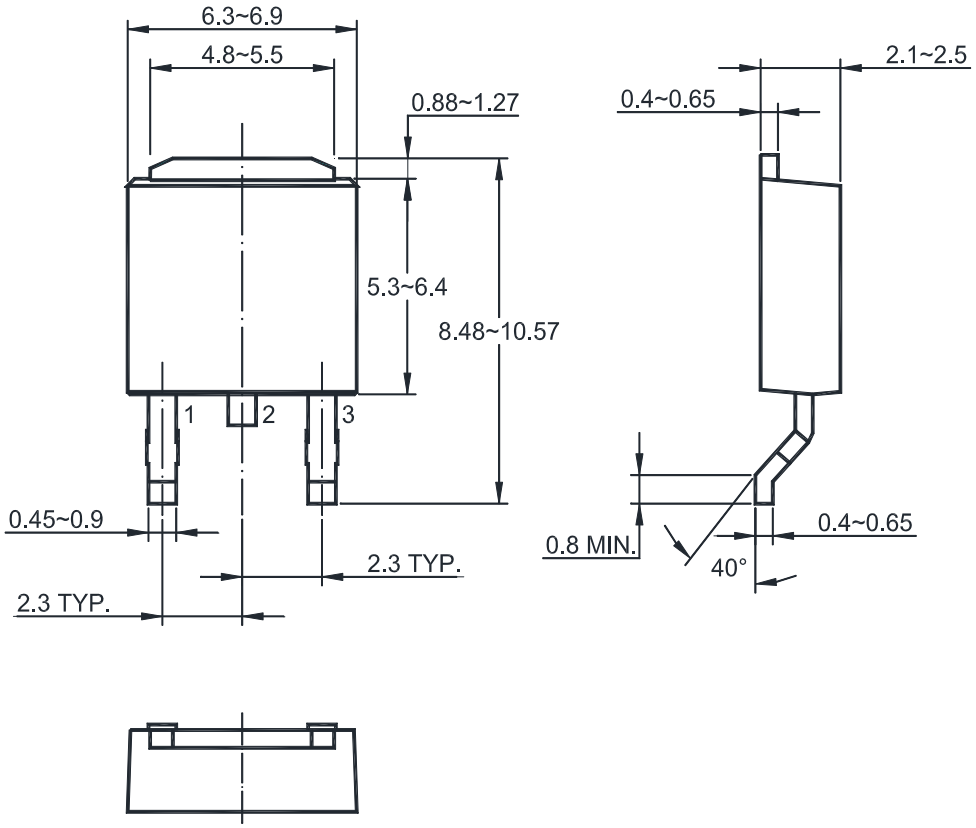
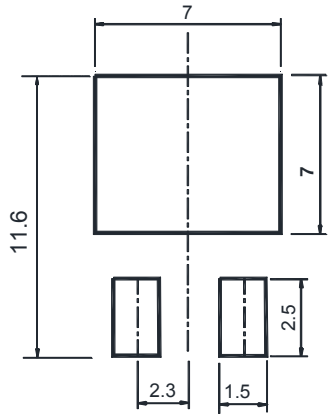
Package Outline Dimensions (Units: mm) TO-252



Recommended Soldering Footprint



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