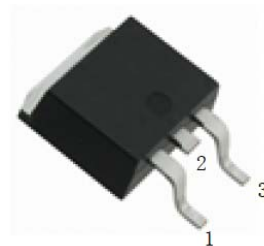
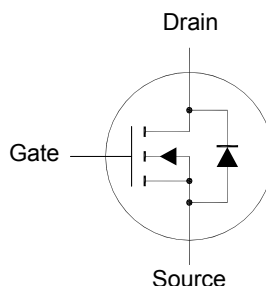


# SFTN0825R

## 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	$V_{DS}$	250	V
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Drain Current	$I_D$	8 5	A
Peak Drain Current	$I_{DM}$	16	A
Avalanche energy, single pulse <sup>1)</sup>	$E_{AS}$	132	mJ
Avalanche current, single pulse <sup>2)</sup>	$I_{AS}$	2.1	A
Power Dissipation	$P_D$	78	W
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	- 50 to 150	$^{\circ}C$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>3)</sup>	$R_{\theta JA}$	55	$^{\circ}C/W$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.6	$^{\circ}C/W$

<sup>1)</sup> L= 60mH,  $I_{AS}=2.1A$ ,  $V_{DB}=150V$ ,  $R_G=10\Omega$ , Starting  $T_J=25^{\circ}C$ .

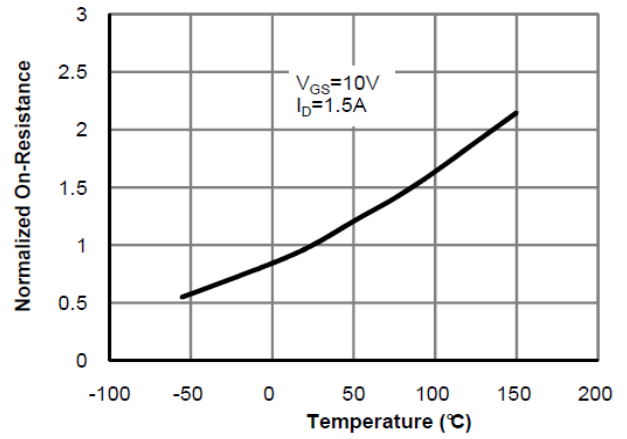
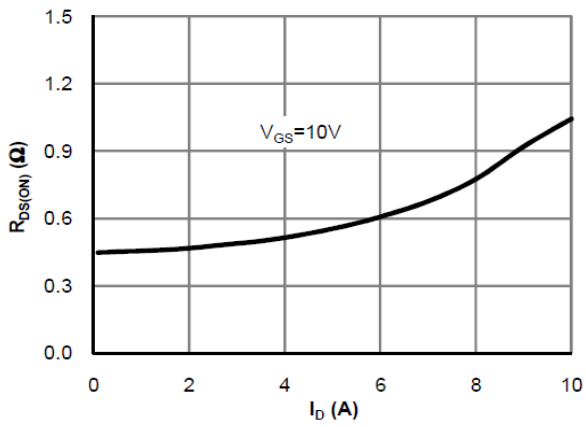
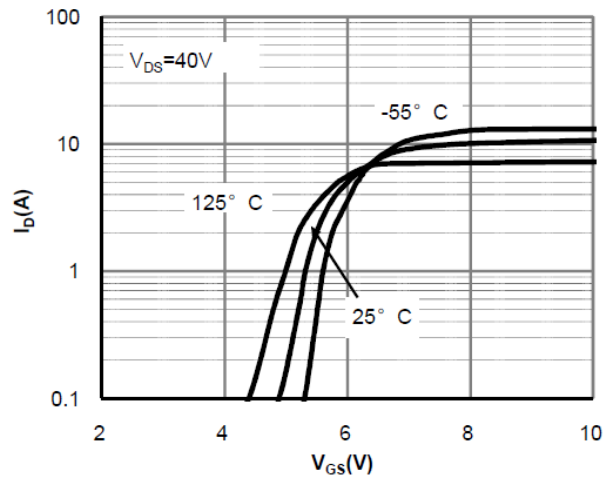
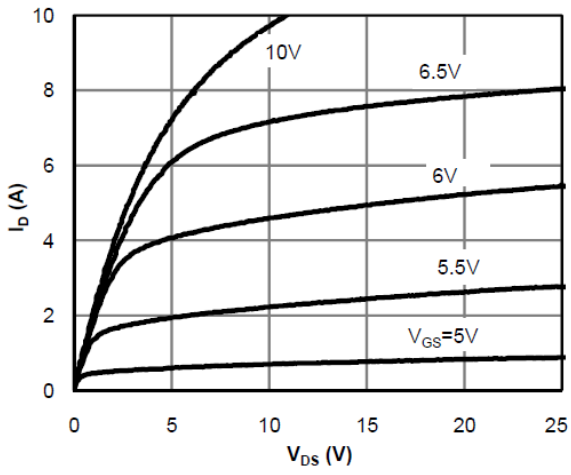
<sup>2)</sup> Repetitive Rating : Pulsed width limited by maximum junction temperature.

<sup>3)</sup> These tests are performed with the device mounted on 1 in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with  $T_A=25^{\circ}C$ .

# SFTN0825R

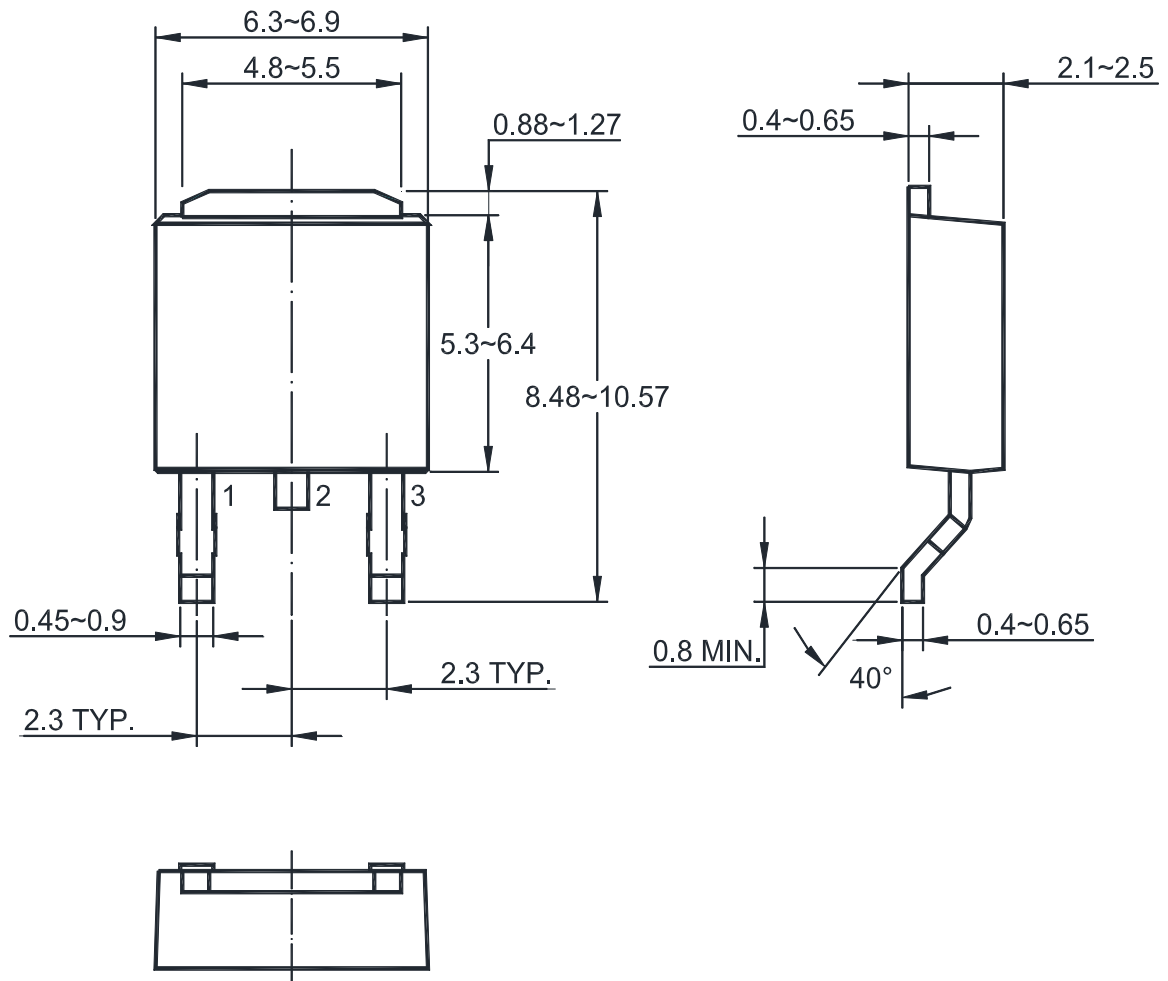
## Characteristics at $T_J = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250 \mu\text{A}$	$BV_{DSS}$	250	-	-	V
Gate-Source Threshold Voltage at $V_{DS} = 5 \text{ V}$ , $I_D = 250 \mu\text{A}$	$V_{GS(th)}$	3.1	-	4.3	V
Drain-Source Leakage Current at $V_{DS} = 250 \text{ V}$ at $V_{DS} = 200 \text{ V}$ , $T_J = 125^\circ\text{C}$	$I_{DSS}$	- -	- -	1 10	$\mu\text{A}$
Gate Leakage Current at $V_{GS} = \pm 30 \text{ V}$	$I_{GSS}$	-	-	$\pm 100$	nA
Drain-Source On-State Resistance at $V_{GS} = 10 \text{ V}$ , $I_D = 1.5 \text{ A}$	$R_{DS(on)}$	-	-	0.56	$\Omega$
Forward Transconductance at $V_{DS} = 40 \text{ V}$ , $I_D = 1.5 \text{ A}$	$ g_{FS} $	-	5	-	S
Diode Forward Voltage at $I_S = 1 \text{ A}$	$V_{SD}$	-	-	1	V
Input Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{iss}$	-	306	-	pF
Output Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{oss}$	-	51	-	pF
Reverse Transfer Capacitance at $V_{GS} = 0 \text{ V}$ , $V_{DS} = 25 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{rss}$	-	3.2	-	pF
Turn-On Delay Time at $V_{GS} = 10 \text{ V}$ , $V_{DS} = 125 \text{ V}$ , $I_D = 1.5 \text{ A}$ , $R_G = 25 \Omega$	$t_{d(on)}$	-	14	-	ns
Turn-On Rise Time at $V_{GS} = 10 \text{ V}$ , $V_{DS} = 125 \text{ V}$ , $I_D = 1.5 \text{ A}$ , $R_G = 25 \Omega$	$t_r$	-	12	-	ns
Turn-Off Delay Time at $V_{GS} = 10 \text{ V}$ , $V_{DS} = 125 \text{ V}$ , $I_D = 1.5 \text{ A}$ , $R_G = 25 \Omega$	$t_{d(off)}$	-	23	-	ns
Turn-Off Fall Time at $V_{GS} = 10 \text{ V}$ , $V_{DS} = 125 \text{ V}$ , $I_D = 1.5 \text{ A}$ , $R_G = 25 \Omega$	$t_f$	-	12	-	ns

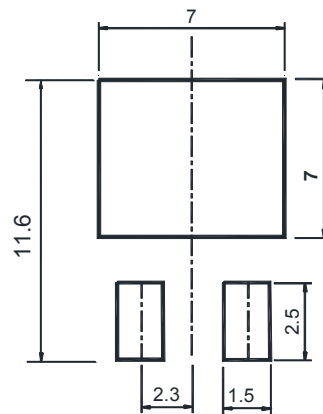


# SFTN0825R

## TO-252 PACKAGE OUTLINE



## Recommended Soldering Footprint



Winning  
Team  
互創國際

Dated: 15/01/2018