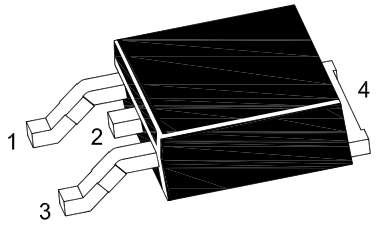
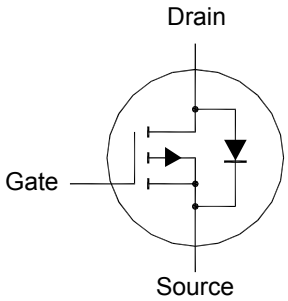
SFTP3752R

P-Channel Trench MOSFET



1. Gate 2. Drain 3. Source 4. Drain
TO-252 Plastic Package



Absolute Maximum Ratings

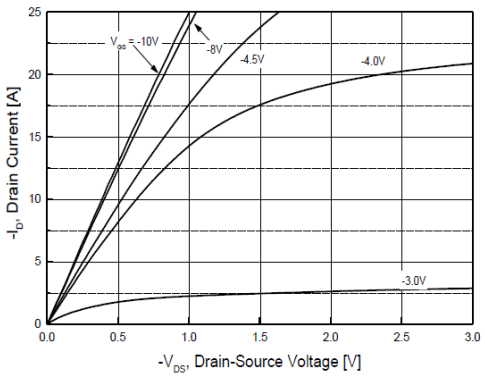
Parameter		Symbol	Value	Unit
Drain-Source Voltage		$-V_{DS}$	40	V
Gate-Source Voltage		V_{GS}	± 20	V
Drain Current	T_C = 25℃ T_C = 100℃	I_D	43 27	A
Peak Drain Current		$-I_{DM}$	90	A
Power Dissipation	T_C = 25℃ T_C = 100℃	P_D	50 20	W
Operating Junction and Storage Temperature Range		T_J, T_{stg}	- 55 to + 150	℃

Thermal Characteristics

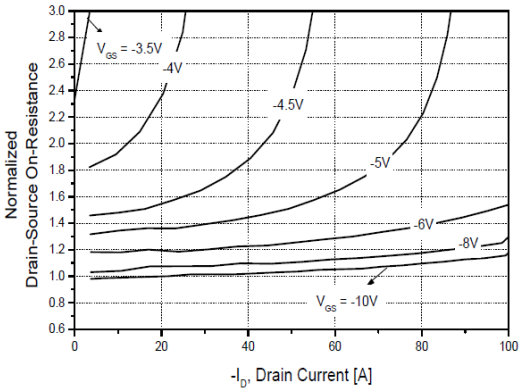
Parameter	Symbol	Max.	Unit
Maximum Thermal Resistance from Juntion to Case	$R_{\theta JC}$	2.5	℃/W
Maximum Thermal Resistance from Juntion to Ambient	$R_{\theta JA}$	40	℃/W

Characteristics at T_J = 25℃ unless otherwise specified

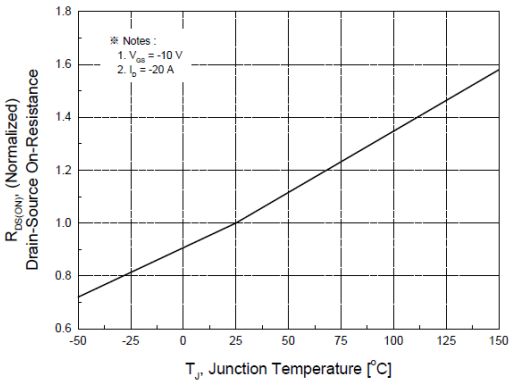
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $-I_D$ = 250 μA	$-BV_{DSS}$	40	-	-	V
Drain-Source Leakage Current at $-V_{DS}$ = 32 V	$-I_{DSS}$	-	-	1	μA
Gate Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	-	± 0.1	μA
Gate-Source Threshold Voltage at V_{DS} = V_{GS}, $-I_D$ = 250 uA	$-V_{GS(th)}$	1	-	3	V
Drain-Source On-State Resistance at $-V_{GS}$ = 10 V, $-I_D$ = 20 A at $-V_{GS}$ = 4.5 V, $-I_D$ = 10 A	$R_{DS(on)}$	- -	- -	17 25	mΩ
Forward Transconductance at $-V_{DS}$ = 10 V, $-I_D$ = 20 A	g_{FS}	-	40	-	S
Diode Forward Voltage at $-I_S$ = 20 A, V_{GS}= 0 V	V_{SD}	-	-	1.2	V
Input Capacitance at V_{GS} = 0 V, $-V_{DS}$ = 20 V, f = 1 MHz	C_{iss}	-	2088	-	pF
Output Capacitance at V_{GS} = 0 V, $-V_{DS}$ = 20 V, f = 1 MHz	C_{oss}	-	168	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V, $-V_{DS}$ = 20 V, f = 1 MHz	C_{rss}	-	290	-	pF
Turn-On Delay Time at $-I_D$ = 1 A, $-V_{GS}$ = 10 V, $-V_{DD}$ = 20 V, R_G = 6 Ω	$t_{d(on)}$	-	17.6	-	ns
Turn-On Rise Time at $-I_D$ = 1 A, $-V_{GS}$ = 10 V, $-V_{DD}$ = 20 V, R_G = 6 Ω	t_r	-	17.8	-	ns
Turn-Off Delay Time at $-I_D$ = 1 A, $-V_{GS}$ = 10 V, $-V_{DD}$ = 20 V, R_G = 6 Ω	$t_{d(off)}$	-	59	-	ns
Turn-Off Fall Time at $-I_D$ = 1 A, $-V_{GS}$ = 10 V, $-V_{DD}$ = 20 V, R_G = 6 Ω	t_f	-	19.8	-	ns



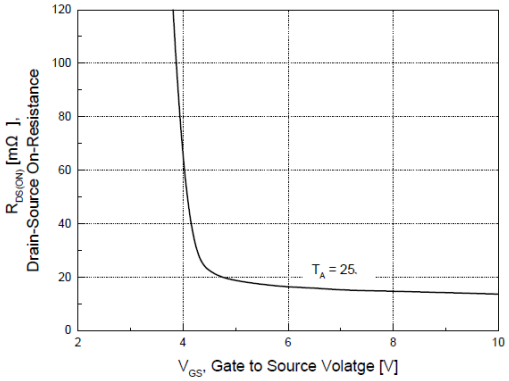
On-Region Characteristics



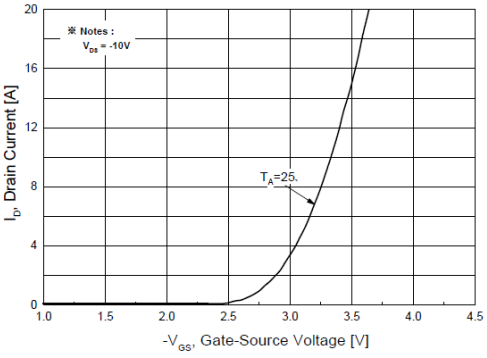
On-Resistance Variation with Drain Current and Gate Voltage



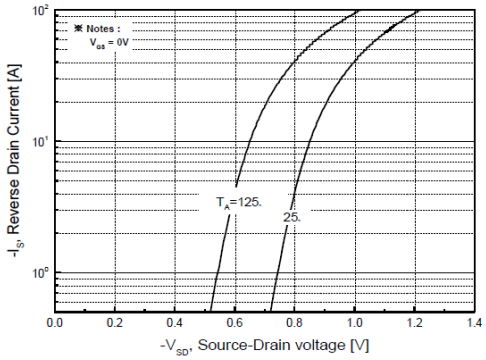
On-Resistance Variation with Temperature



On-Resistance Variation with Gate to Source Voltage

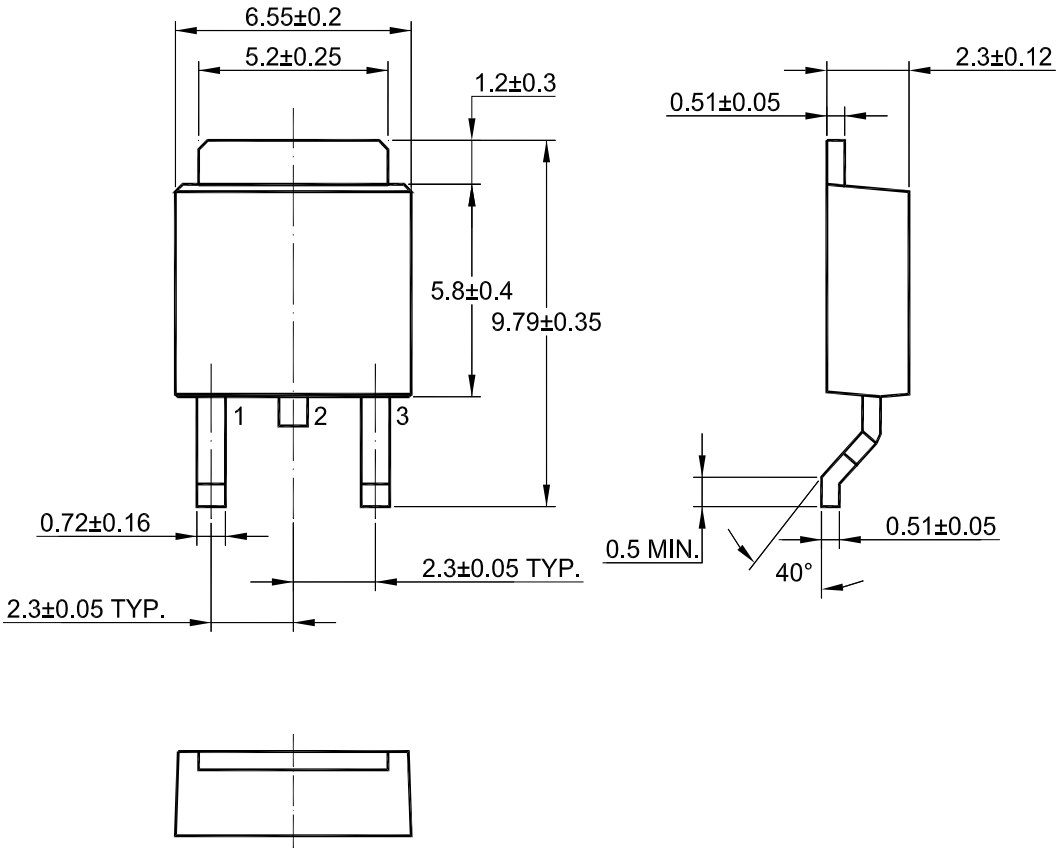


Transfer Characteristics



Body Diode Forward Voltage Variation with Source Current and Temperature

TO-252 PACKAGE OUTLINE



Dimensions in mm