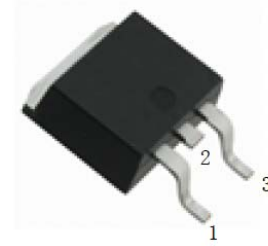
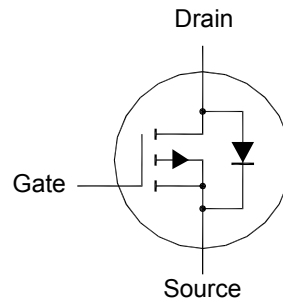


SFTP3752R

P-Channel Trench MOSFET



1.Gate 2.Drain 3.Source
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	I_D	$T_C = 25^\circ\text{C}$ 43 $T_C = 100^\circ\text{C}$ 27	A
Peak Drain Current	$-I_{DM}$	90	A
Power Dissipation	P_D	$T_C = 25^\circ\text{C}$ 50 $T_C = 100^\circ\text{C}$ 20	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

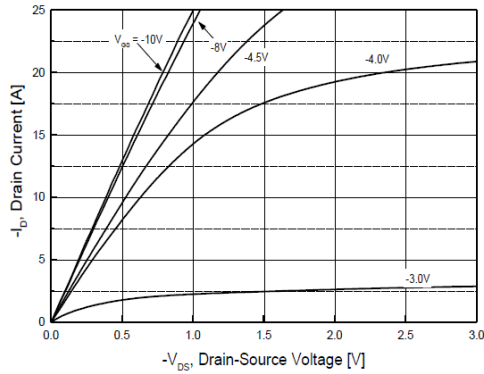
Parameter	Symbol	Max.	Unit
Maximum Thermal Resistance from Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$
Maximum Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$

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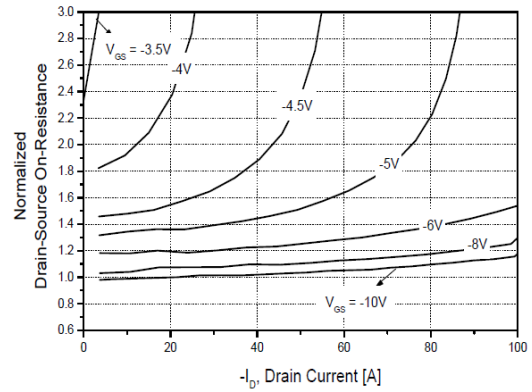
SFTP3752R

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

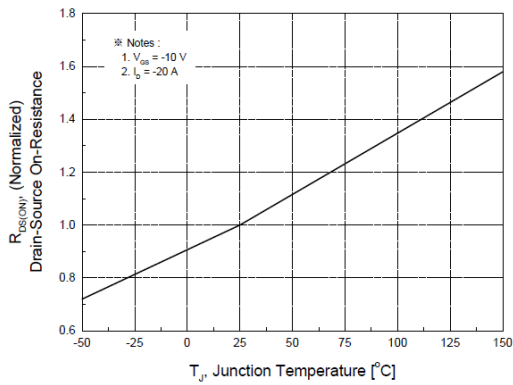
Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $-I_D = 250 \mu\text{A}$	$-BV_{\text{DSS}}$	40	-	-	V
Drain-Source Leakage Current at $-V_{\text{DS}} = 32 \text{ V}$	$-I_{\text{DSS}}$	-	-	1	μA
Gate Leakage Current at $V_{\text{GS}} = \pm 20 \text{ V}$	I_{GSS}	-	-	± 0.1	μA
Gate-Source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



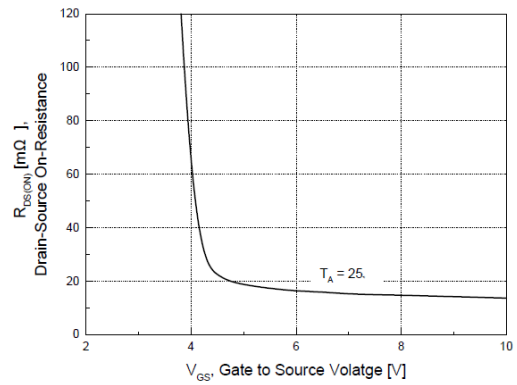
On-Region Characteristics



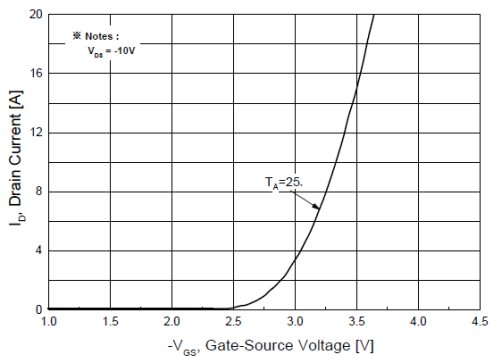
On-Resistance Variation with Drain Current and Gate Voltage



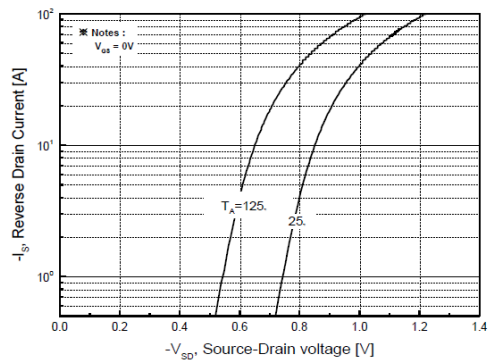
On-Resistance Variation with Temperature



On-Resistance Variation with Gate to Source Voltage



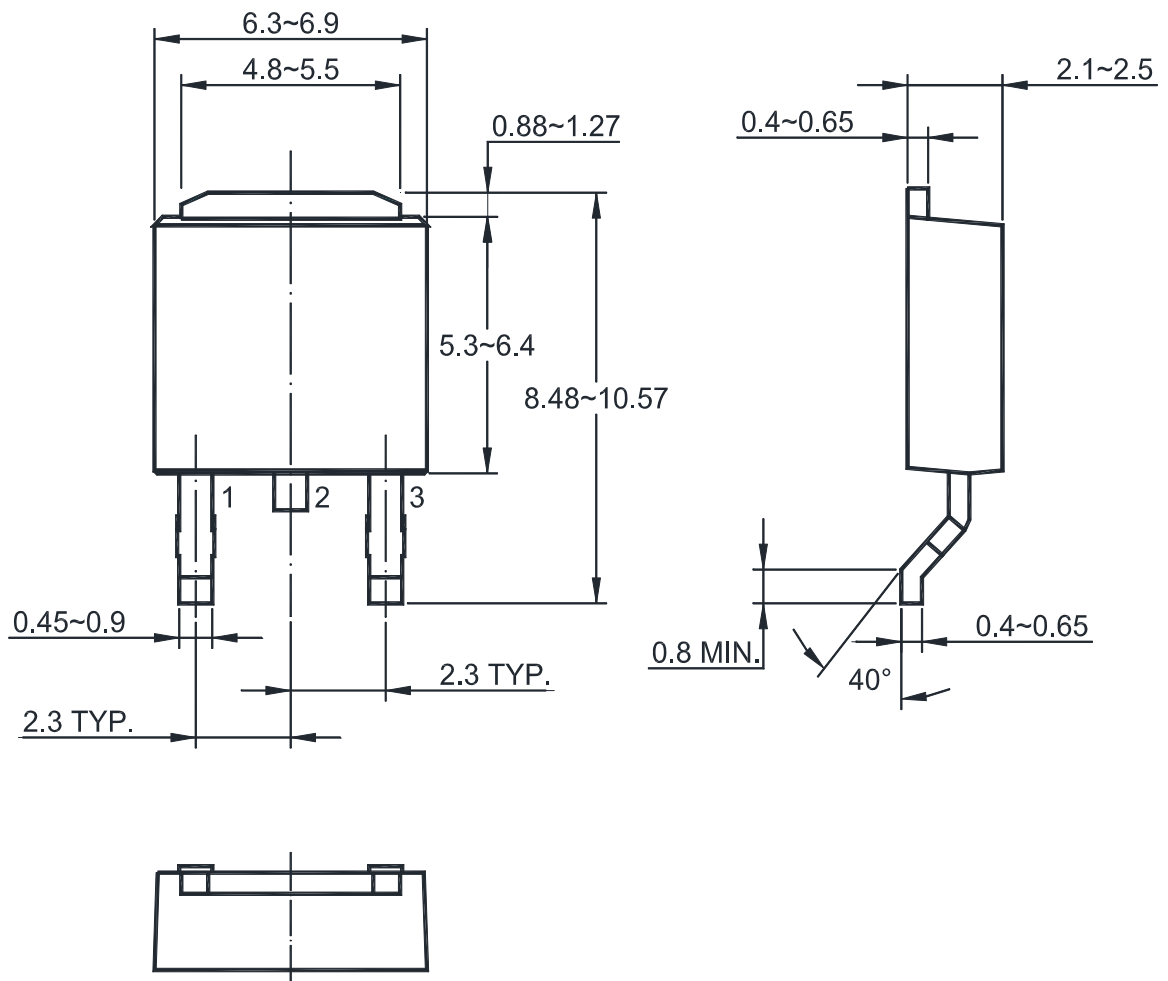
Transfer Characteristics



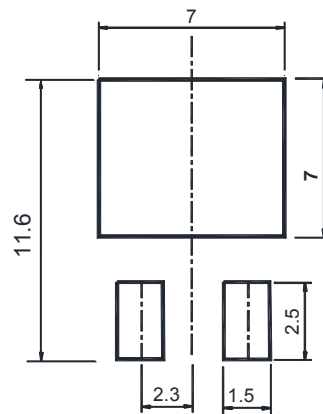
Body Diode Forward Voltage Variation with Source Current and Temperature

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TO-252 PACKAGE OUTLINE



Recommended Soldering Footprint



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