



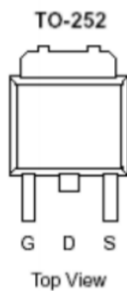
Product Summary

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V _{DS} (V)	r _{DS(on)} (mΩ) typ	I _D (A)
-60	37 @ V _{GS} = -10V	-25
	45 @ V _{GS} = -4.5V	-22

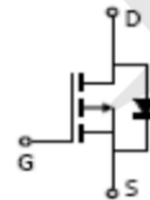
Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Package and Pin Configuration



Circuit diagram



Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current ^a	I _D	T _C =25°C	A
Pulsed Drain Current ^b		-100	
Continuous Source Current (Diode Conduction) ^a	I _S	-40	A
Power Dissipation ^a	P _D	T _C =25°C	W
Operating Junction and Storage Temperature Range		T _J , T _{stg}	

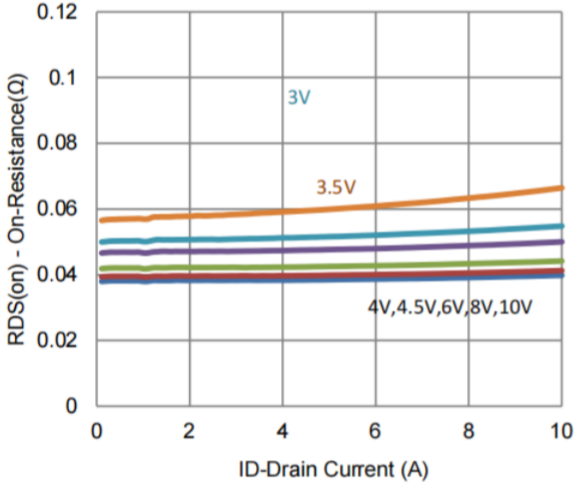
Thermal Resistance Rating

Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	R _{θJA}	40	°C/W
Maximum Junction-to-Case	R _{θJC}	3	

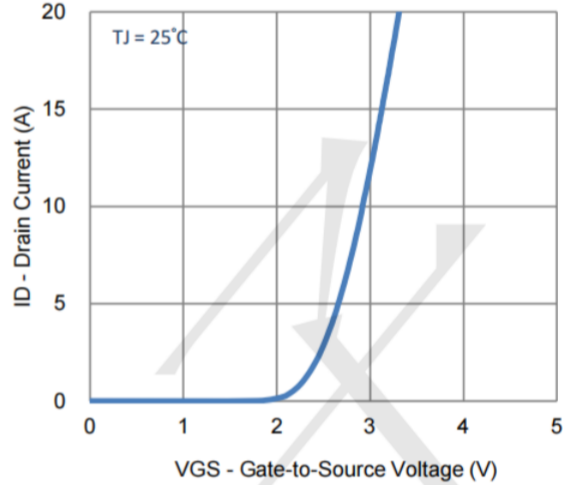


Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

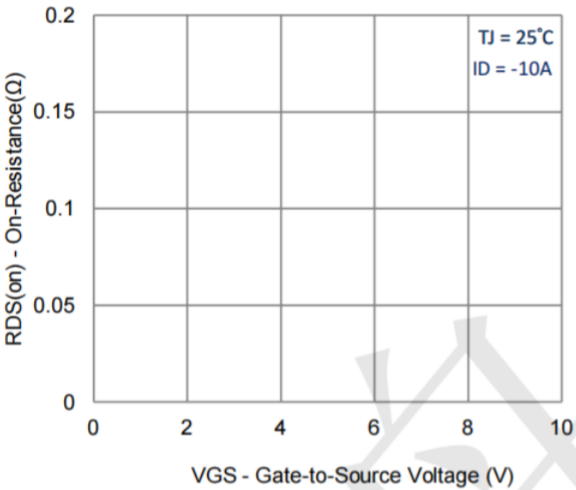
Parameter	Symbol	Test Condition	Min.	Typ.	Max	Units
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$	-1			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -48 \text{ V}, V_{GS} = 0 \text{ V}$			-1	μA
		$V_{DS} = -48 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 55^\circ\text{C}$			-25	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = -5 \text{ V}, V_{GS} = -10 \text{ V}$	-40			A
Drain-Source On-Resistance ^a	$r_{DS(on)}$	$V_{GS} = -10 \text{ V}, I_D = -10 \text{ A}$		37	50	$\text{m}\Omega$
		$V_{GS} = -4.5 \text{ V}, I_D = -8 \text{ A}$		45	62	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -15 \text{ V}, I_D = -10 \text{ A}$		22		S
Diode Forward Voltage ^a	V_{SD}	$I_S = -20 \text{ A}, V_{GS} = 0 \text{ V}$		-1.03		V
Dynamic ^b						
Total Gate Charge	Q_g	$V_{DS} = -30 \text{ V}, V_{GS} = -4.5 \text{ V},$ $I_D = -10 \text{ A}$		20		nC
Gate-Source Charge	Q_{gs}			5.2		
Gate-Drain Charge	Q_{gd}			8.1		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = -30 \text{ V}, R_L = 3 \Omega,$ $I_D = -10 \text{ A},$ $V_{GEN} = -10 \text{ V}, R_{GEN} = 6 \Omega$		10		ns
Rise Time	t_r			19		
Turn-Off Delay Time	$t_{d(off)}$			62		
Fall Time	t_f			20		
Input Capacitance	C_{iss}	$V_{DS} = -15 \text{ V}, V_{GS} = 0 \text{ V}, f = 1 \text{ Mhz}$		1816		pF
Output Capacitance	C_{oss}			128		
Reverse Transfer Capacitance	C_{rss}			111		



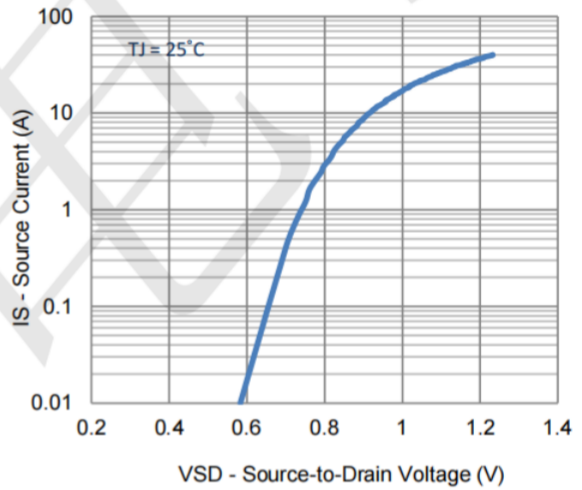
1. On-Resistance vs. Drain Current



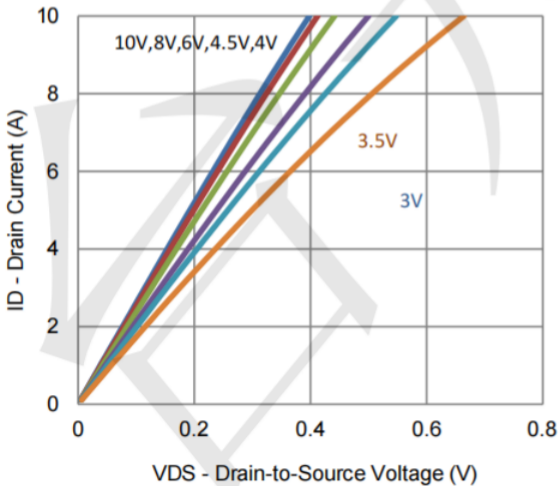
2. Transfer Characteristics



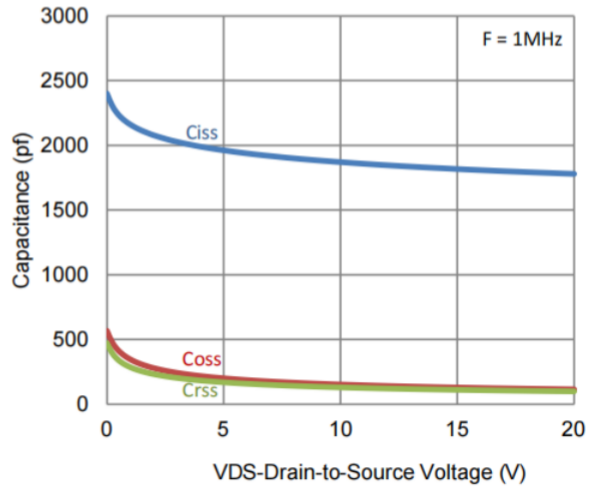
3. On-Resistance vs. Gate-to-Source Voltage



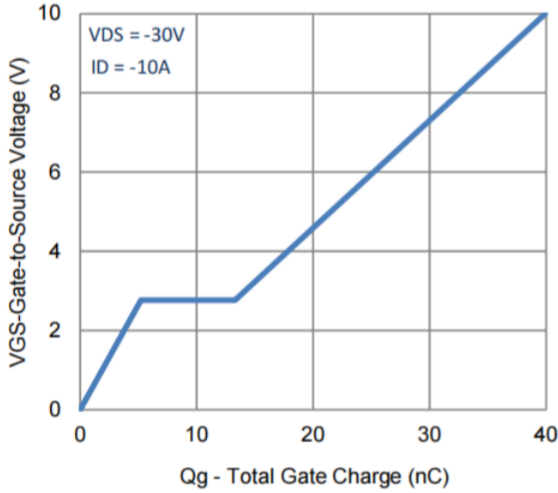
4. Drain-to-Source Forward Voltage



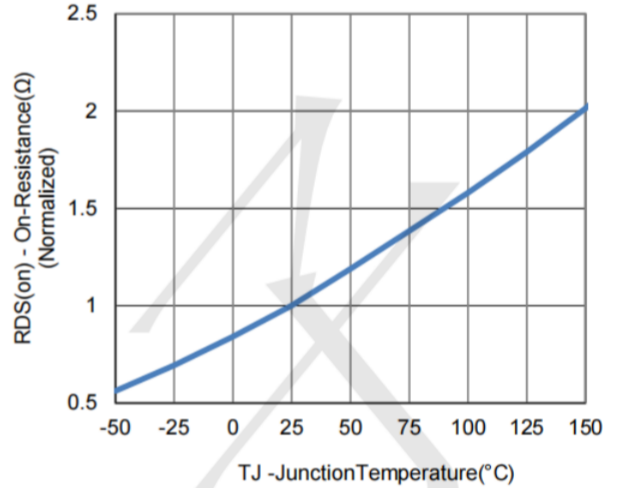
5. Output Characteristics



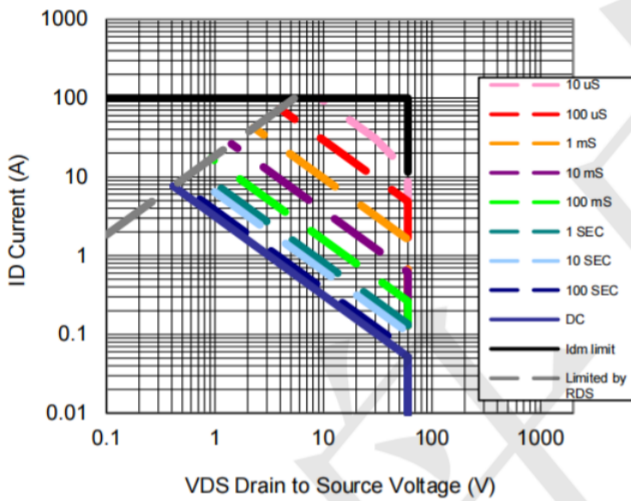
6. Capacitance



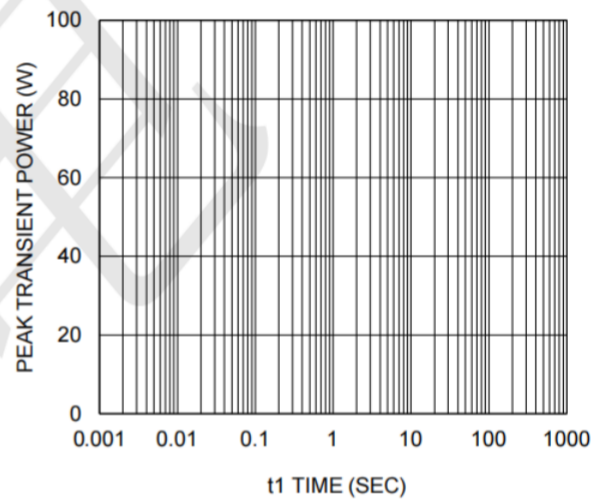
7. Gate Charge



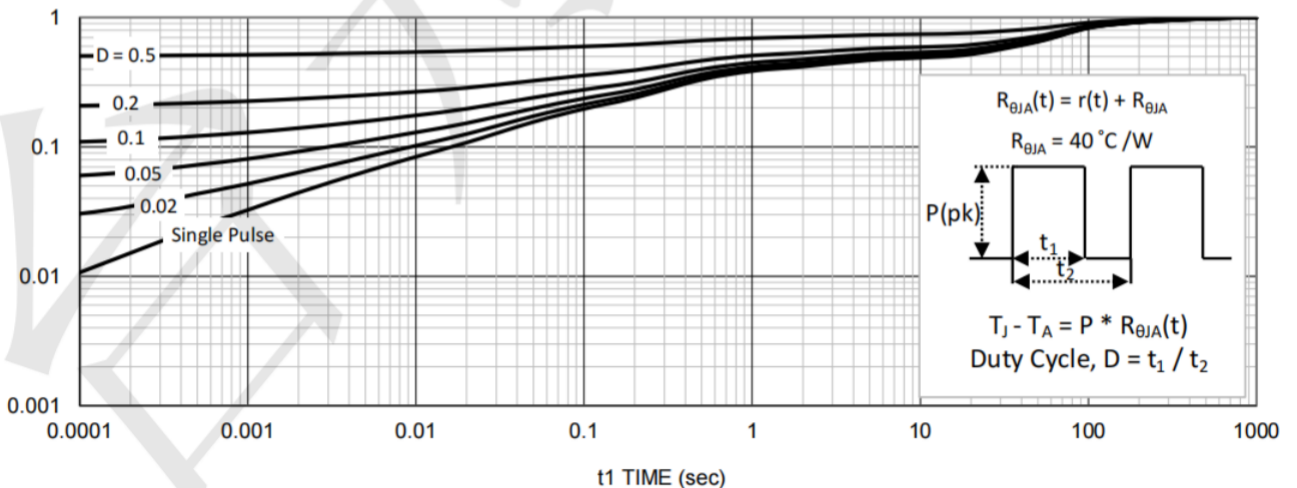
8. Normalized On-Resistance Vs Junction Temperature



9. Safe Operating Area



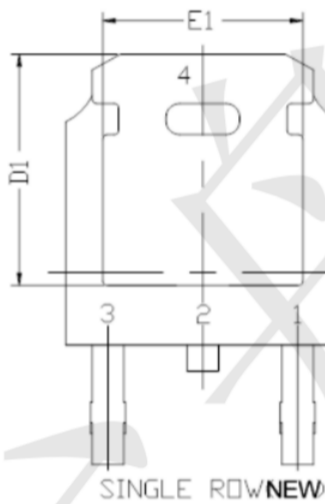
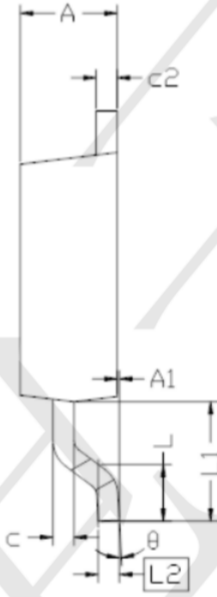
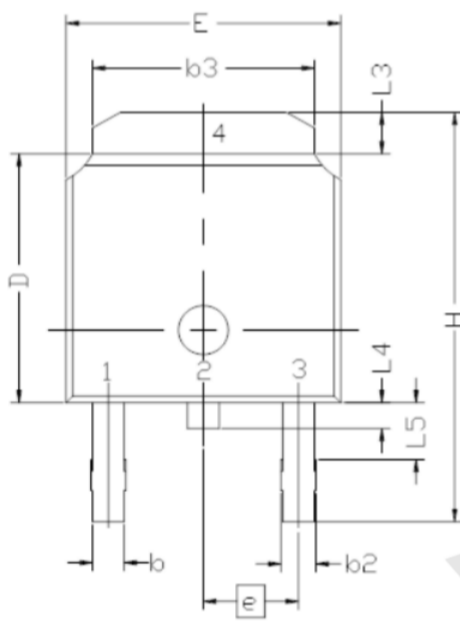
10. Single Pulse Maximum Power Dissipation



11. Normalized Thermal Transient Junction to Ambient



TO252 Package Information



SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1	2.743 REF		
L2	0.508 BSC		
L3	0.89	--	1.27
L4	0.64	--	1.01
L5	--	--	--
D	6.00	6.10	6.223
H	9.40	10.00	10.40
b	0.64	0.76	0.88
b2	0.77	0.84	1.14
b3	5.21	5.34	5.46
e	2.286 BSC		
A	2.20	2.30	2.38
A1	0	--	0.127
c	0.45	0.50	0.60
c2	0.45	0.50	0.58
D1	5.30	--	--
E1	4.40	--	--
θ	0°	--	10°