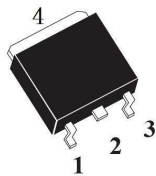


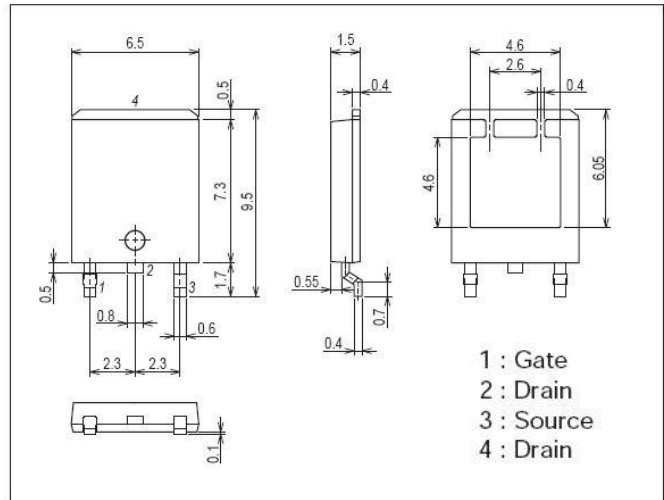
Features

- Low On resistance.
- 4.5V drive.
- RoHS compliant.



Package Dimensions

TO-252



Specifications

Absolute Maximum Ratings at $T_a=25^{\circ}C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		150	V
Gate-to-Source Voltage	V_{GSS}		+20	V
Drain Current (DC)	I_D		25	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	15	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1000mm ² ×0.8mm) 1unit	20	W
Total Dissipation	P_T	Mounted on a ceramic board (1000mm ² ×0.8mm)	25	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55~+150	°C

Electrical Characteristics at $T_a=25^{\circ}C$

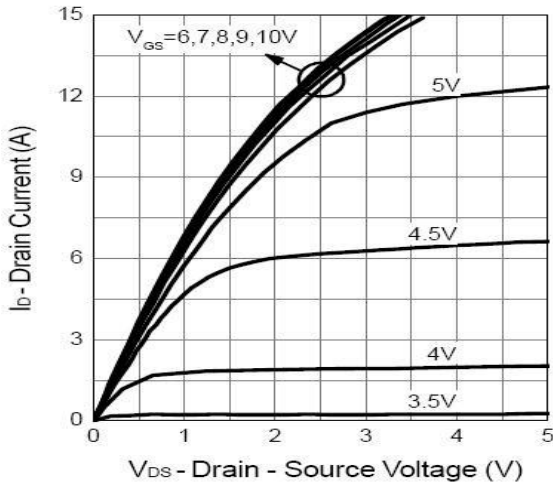
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=250\mu A$, $V_{GS}=0V$	172	-	-	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=80V$, $V_{GS}=0V$	-	-	1	uA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$, $V_{DS}=0V$	-	-	+10	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\mu A$	1	2.85	3	V
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=5A$, $V_{GS}=10V$	-	44	70	mΩ
Input Capacitance	C_{iss}	$V_{DS}=30V$, $V_{GS}=0V$, $f=1MHz$	-	440	-	pF
Output Capacitance	C_{oss}	$V_{DS}=30V$, $V_{GS}=0V$, $f=1MHz$	-	36	-	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=30V$, $V_{GS}=0V$, $f=1MHz$	-	20	-	pF

Electrical Characteristics at $T_a=25^{\circ}C$ (Continued)

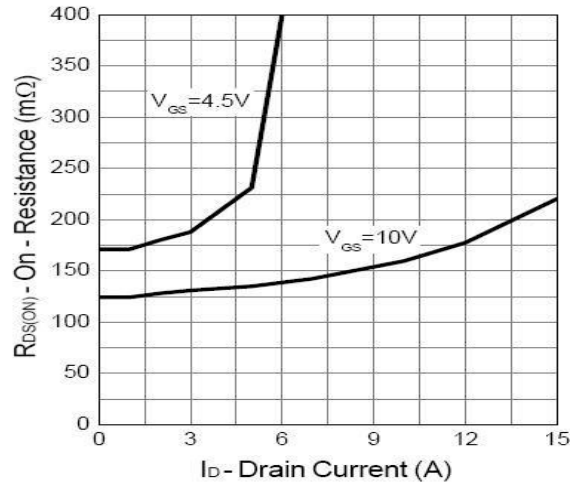
Parameter	Symbol	Conditions	Ratings			Unit
			min	Typ	max	
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=30V, R_L=30\Omega, R_{GEN}=6\Omega,$ $V_{GS}=10V$	-	11	21	nS
Rise Time	t_r		-	10	19	nS
Turn-off Delay Time	$t_{d(off)}$		-	21	39	nS
Fall Time	t_f		-	13	24	nS
Total Gate Charge	Q_g	$V_{DS}=50V, V_{GS}=10V, I_D=5A$	-	9.5	13	nC
Gate-to-Source Charge	Q_{gs}		-	1.9	-	nC
Gate-to-Drain "Miller" Charge	Q_{gd}		-	2.1	-	nC
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$	-	0.8	1.1	V

Typical Characteristics at $T_a=25^\circ C$

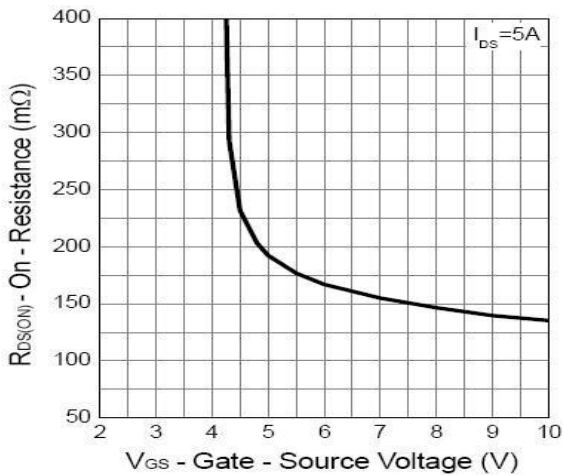
Output Characteristics



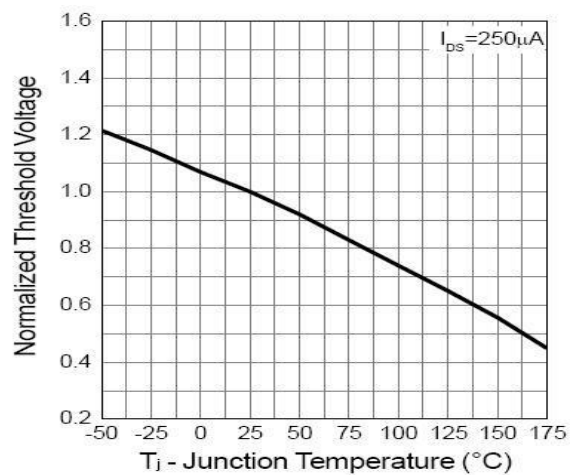
Drain-Source On Resistance



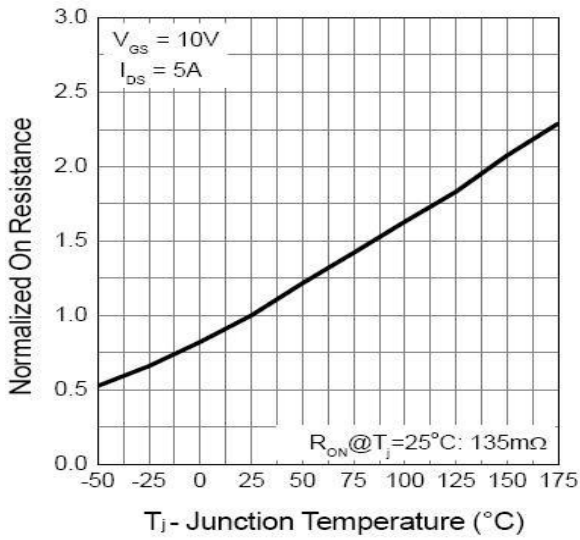
Gate-Source On Resistance



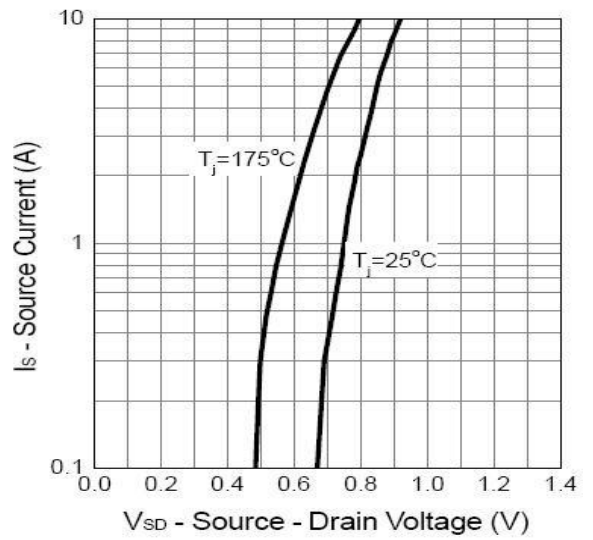
Gate Threshold Voltage



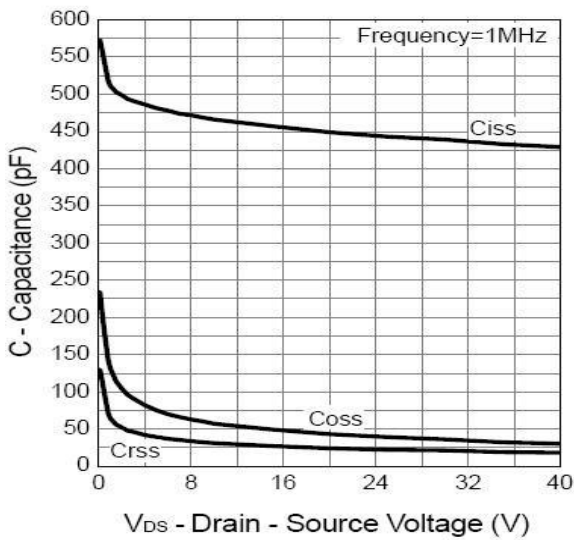
Drain-Source On Resistance



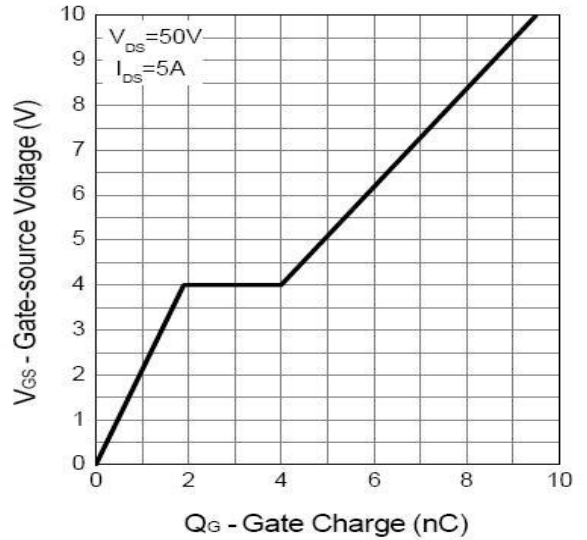
Source-Drain Diode Forward



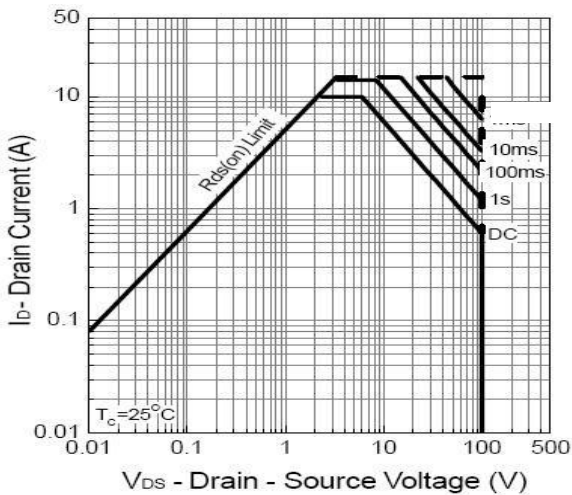
Capacitance



Gate Charge



Safe Operation Area



Thermal Transient In . . . ce

