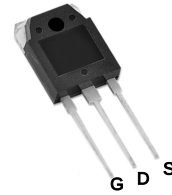


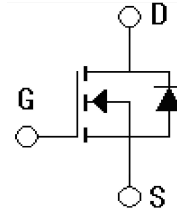
Features

- $V_{DS}=160V, I_D=7A$
- Low C_{rss}
- Low gate charge



Applications

- High speed switching
- Audio amplifier
- Switching applications



Absolute Ratings ($T_C=25^\circ C$)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	160	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current-continuous	I_D	$T_C=25^\circ C$	A
		$T_C=100^\circ C$	
Drain Current-pulse(note 1)	I_{DM}	35	A
Single Pulsed Avalanche Energy (note 2)	E_{AS}	150	mJ
Maximum Power Dissipation	P_D	$T_C=25^\circ C$	W
		$T_C=100^\circ C$	
Operating and Storage Temperature Range	T_J, T_{STG}	$-55 \sim +150$	$^\circ C$
Maximum Lead Temperature for Soldering Purposes	T_L	260	$^\circ C$

Electrical Characteristics($T_{CASE}=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	160	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V,$ $T_C=25^\circ C$	-	-	1	μA
		$T_C=125^\circ C$	-	-	100	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	-	1.55	2.5	V

Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1A$	-	130	200	mΩ
Forward Trans-conductance	g_{fs}	$V_{DS}=20V, I_D=7A$	6	-	-	S
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=10V,$ $V_{GS}=0V,$ $f=1.0MHz$	-	616	-	pF
Output capacitance	C_{oss}		-	362	-	pF
Reverse transfer capacitance	C_{rss}		-	13	-	pF

Electrical Characteristics($T_{CASE}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	t _{d(on)}	V _{DS} =20V,I _D =4A, V _{GS} =10V,R _G =10Ω	-	115	-	ns
Turn-On rise time	t _r		-	73	-	ns
Turn-Off delay time	t _{d(Off)}		-	39	-	ns
Turn-Off rise time	t _f		-	23	-	ns
Total Gate Charge	Q _g	V _{DS} =80V,I _D =7A, V _{GS} =10V	-	60	-	nC
Gate-Source charge	Q _{gs}		-	16	-	nC
Gate-Drain charge	Q _{gd}		-	28	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V,I _S =1A	-	0.75	1.2	V
Reverse recovery Current	I _S		-	7	-	A
Reverse recovery time	T _{rr}	I _S =7A, dl/dt=100A/μs V _R =80V	-	420	-	ns
Reverse recovery charge	Q _{rr}		-	180	-	nC

Thermal Characteristic

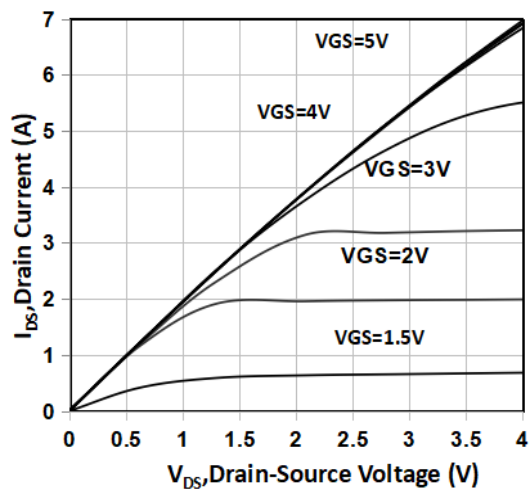
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case, Max	$R_{th(j-C)}$	1.19	$^{\circ}C/W$
Thermal Resistance, junction to Ambient, Max	$R_{th(j-A)}$	25	$^{\circ}C/W$

Notes:

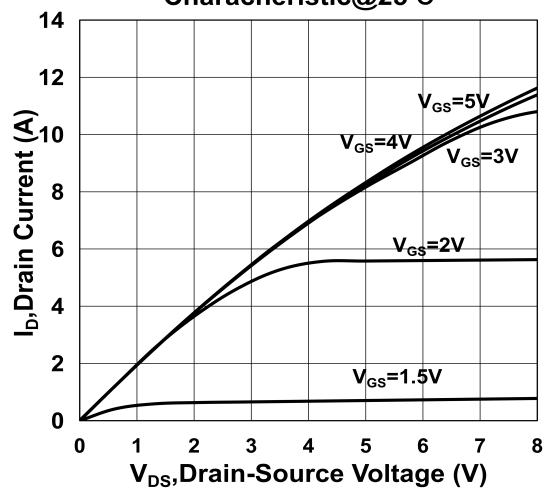
- Pulse width limited by maximum junction temperature

Electrical Characteristics

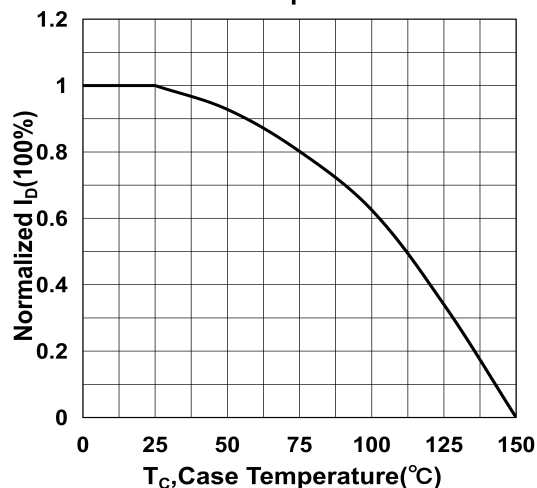
On-Region Characteristic@25°C



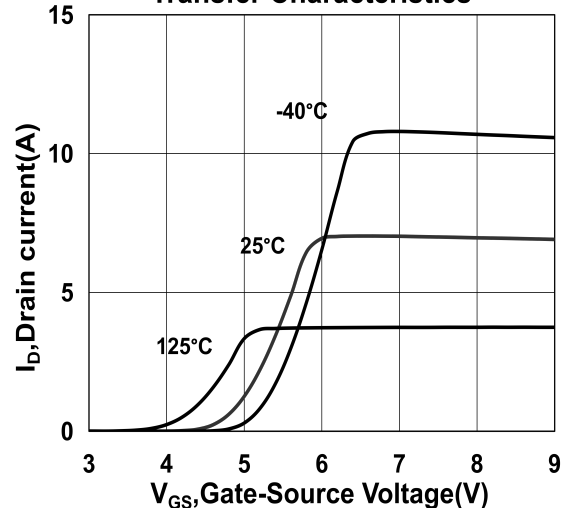
Extended On-Region Characteristic@25°C



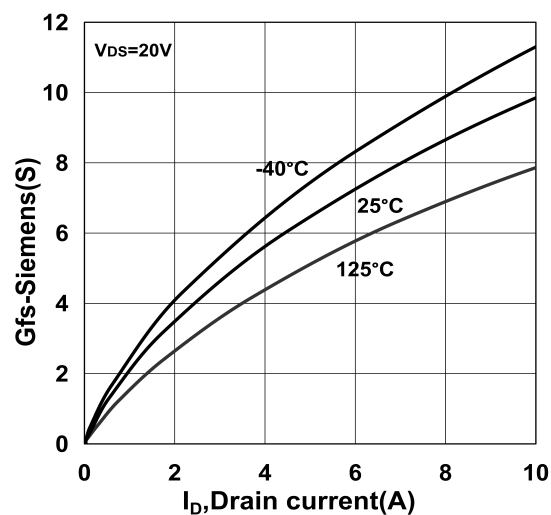
Maximum Drain Current vs Case Temperature



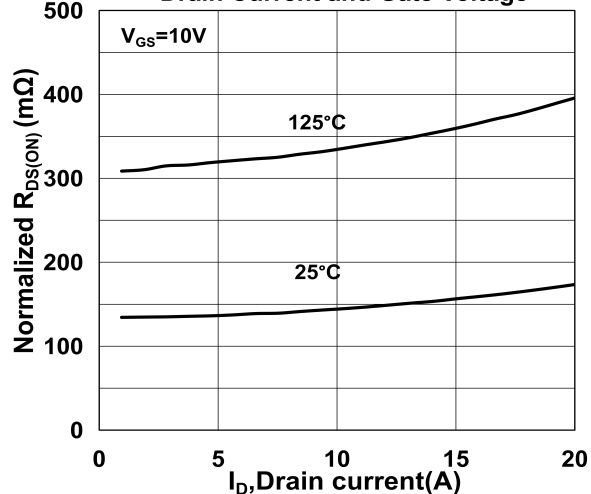
Transfer Characteristics



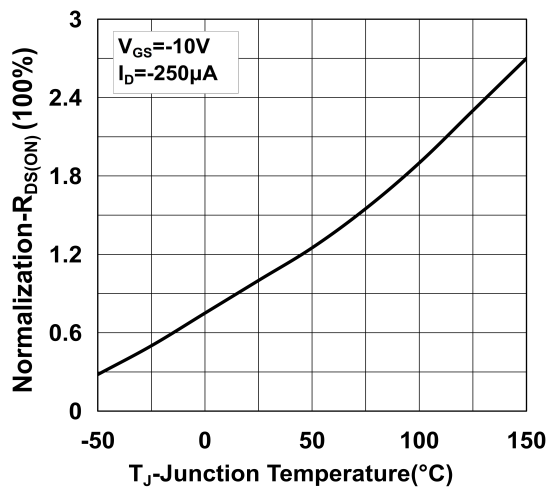
Transconductance



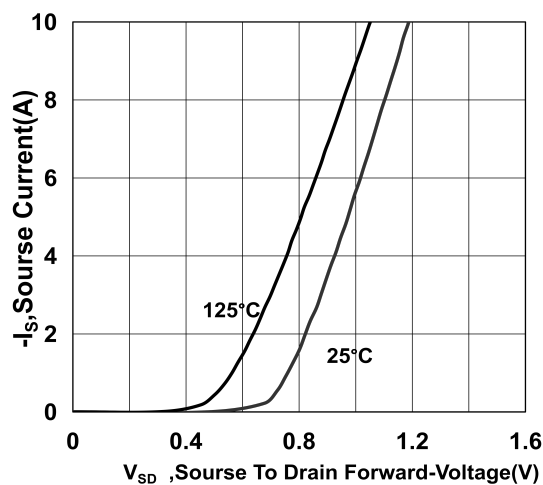
On-Resistance Variation vs Drain Current and Gate Voltage



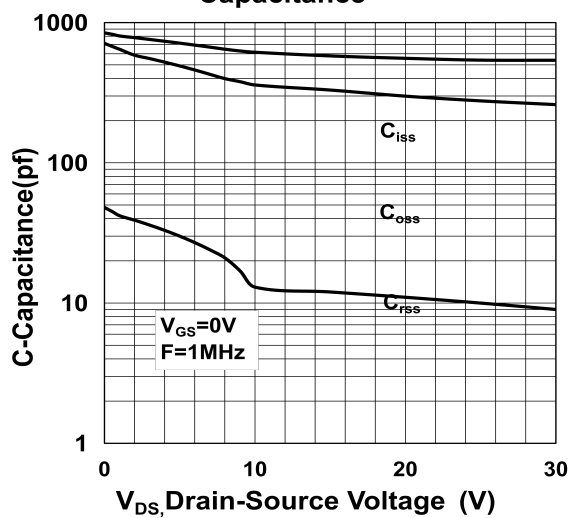
**Normalization On-Resistance
Variation vs Junction Temperature**



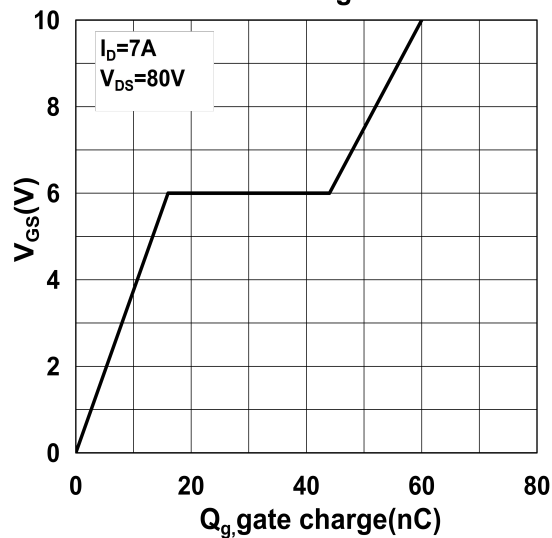
**Body Diode Forward Voltage Variation
with Source Current and Temperature**



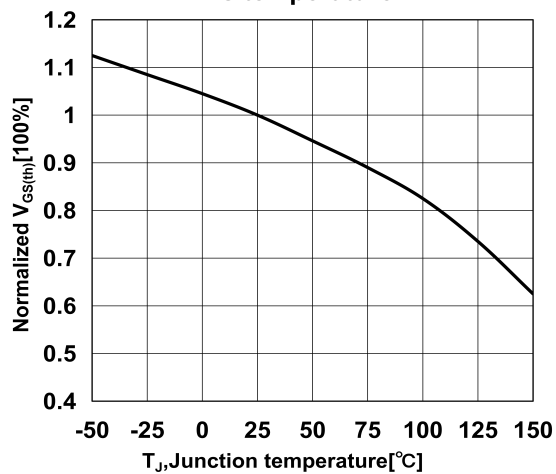
Capacitance



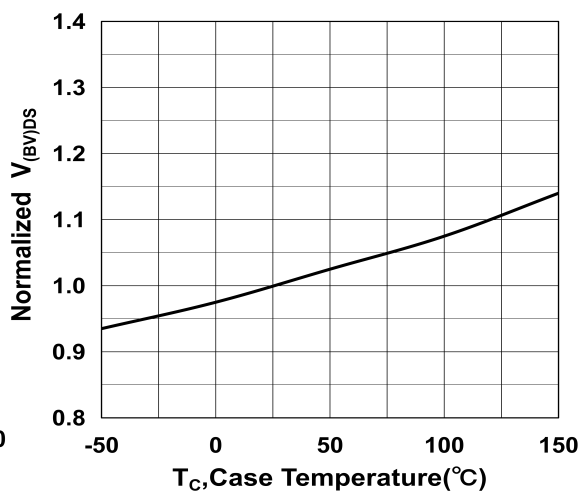
Gate Charge

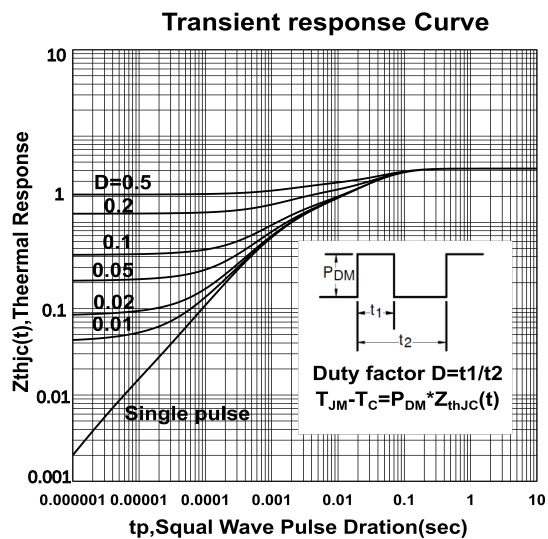
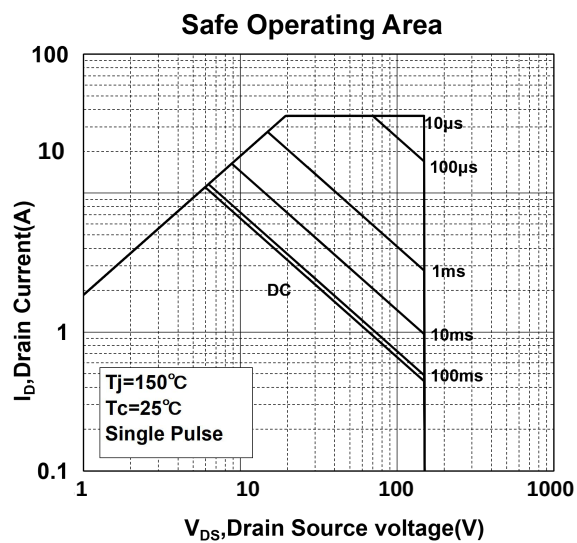
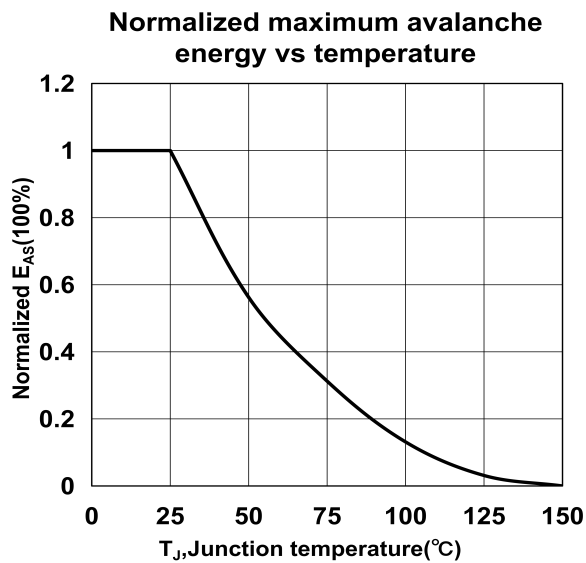


**Normalized gate threshold voltage
vs temperature**



Normalized $V_{(BV)DS}$ vs temperature





Package Mechanical Data

