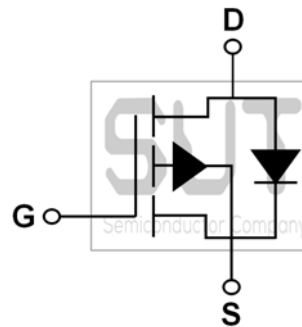
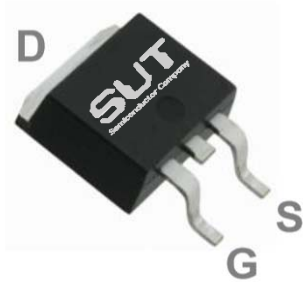


P-Channel 30-V_(D-S) MOSFET

PRODUCT SUMMARY		
B _{VDSS} (V)	R _{DS(on)} (mΩ)(MAX)	I _D (A)
-30	20@V _{GS} =-10V	-35

TO252 Pin Configuration



ABSOLUTE MAXIMUM RATINGS(T_C=25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current-Continuous (T _C =25°C)	I _D	-35	A
Drain Current-Continuous (T _C =100°C)		-22	A
Drain Current-Pulsed ¹	I _{DM}	-140	A
Power Dissipation (T _C =25°C)	P _D	40	W
Power Dissipation-Derate above 25°C		0.32	W/°C
Storage Temperature Range	T _{STG}	-55 to 150	°C
Operating Junction Temperature Range	T _J	-55 to 150	°C

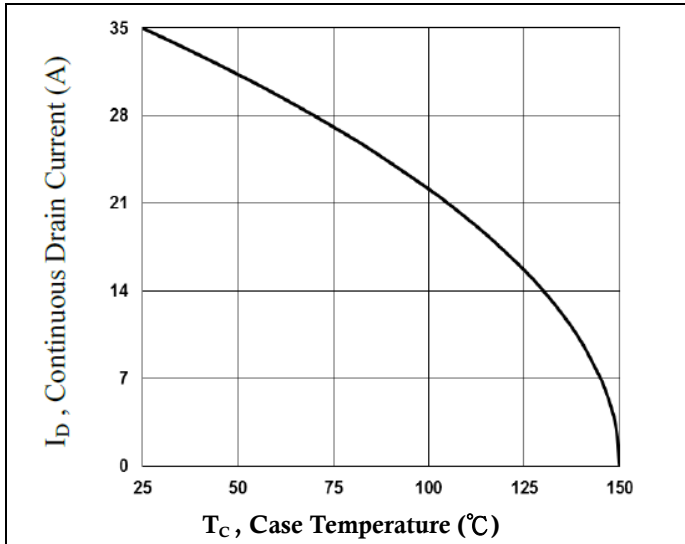
THERMAL CHARACTERISTICS

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction to ambient	R _{θJA}	---	62	°C/W
Thermal Resistance Junction to Case	R _{θJC}	---	3.1	°C/W

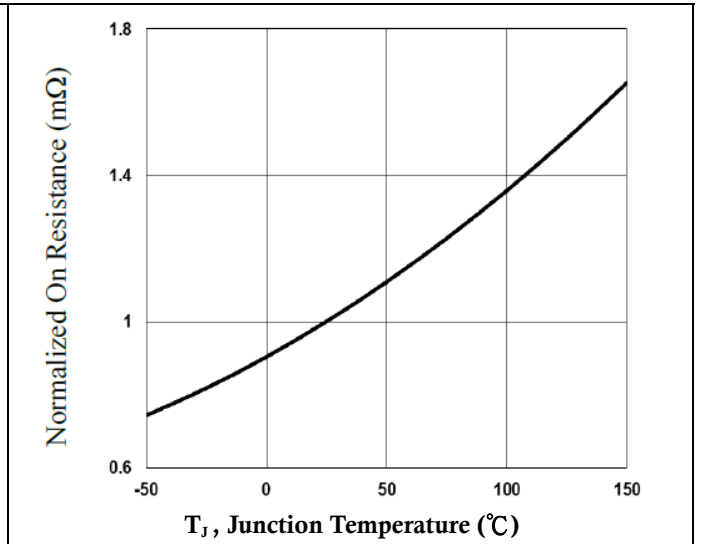
ELECTRICAL CHARACTERISTICS (T _J =25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250uA	-30	---	---	V
BV _{DSS} Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =-1mA	---	-0.03	---	V/°C
Drain-Source Leakage Current	I _{DSS}	V _{GS} =0V, V _{DS} =-30V, T _J =25°C	---	---	-1	uA
		V _{GS} =0V, V _{DS} =-24V, T _J =125°C	---	---	-10	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
On Characteristics						
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-8A	---	16.5	20	mΩ
		V _{GS} =-4.5V, I _D =-5A	---	25.6	32	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =-250uA	-1.0	-1.6	-2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		---	4.0	---	mV/°C
Forward Transconductance	g _{fs}	V _{DS} =-10V, I _D =-3A	---	6.8	---	S
Dynamic and Switching Characteristics						
Total Gate Charge ^{2, 3}	Q _g	V _{GS} =-4.5V, V _{DS} =-15V, I _D =-5A	---	11	17	nC
Gate-Source Charge ^{2, 3}	Q _{gs}		---	3.4	6	
Gate-Drain Charge ^{2, 3}	Q _{gd}		---	4.2	8	
Turn-On Delay Time ^{2, 3}	T _{d(on)}	V _{GS} =-10V, V _{DD} =-15V, R _G =6Ω, I _D =-1A	---	5.8	11	ns
Rise Time ^{2, 3}	T _r		---	18.8	36	
Turn-Off Delay Time ^{2, 3}	T _{d(off)}		---	46.9	89	
Fall Time ^{2, 3}	T _f		---	12.3	23	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, F=1MHz	---	1250	1820	pF
Output Capacitance	C _{oss}		---	160	235	
Reverse Transfer Capacitance	C _{rss}		---	90	130	
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Source Current	I _S	V _G =V _D =0V, Force Current	---	---	-35	A
Pulsed Source Current	I _{SM}		---	---	-70	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-1A, T _J =25°C	---	---	-1.0	V

Note :

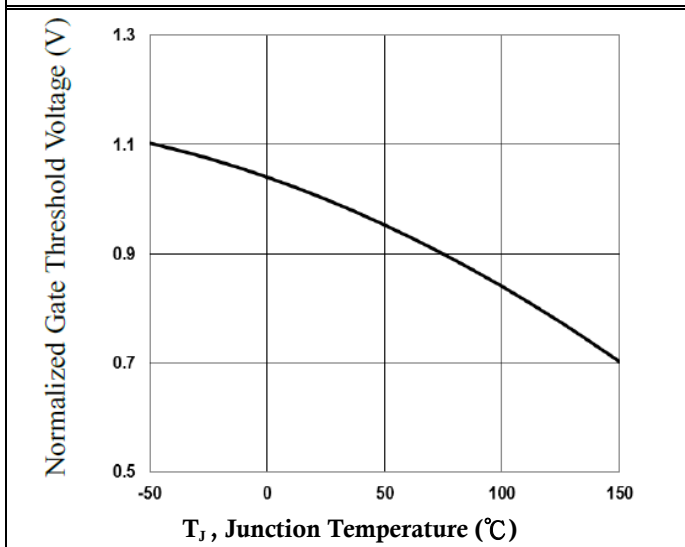
1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%.
3. Essentially independent of operating temperature.



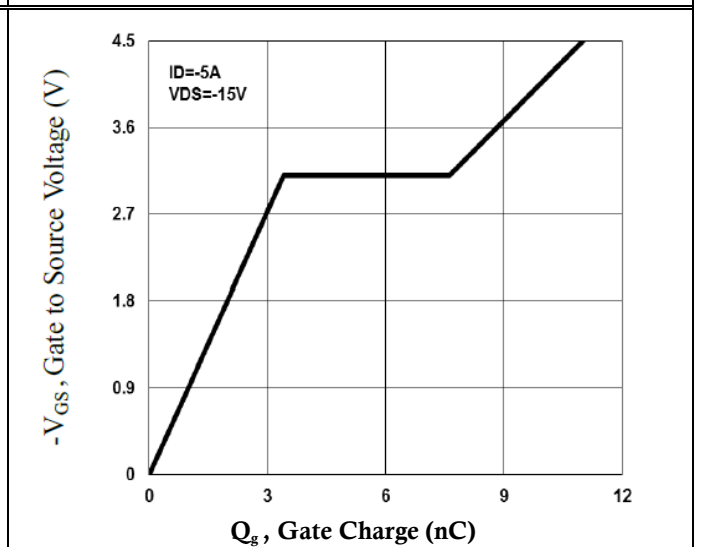
Continuous Drain Current vs. T_C



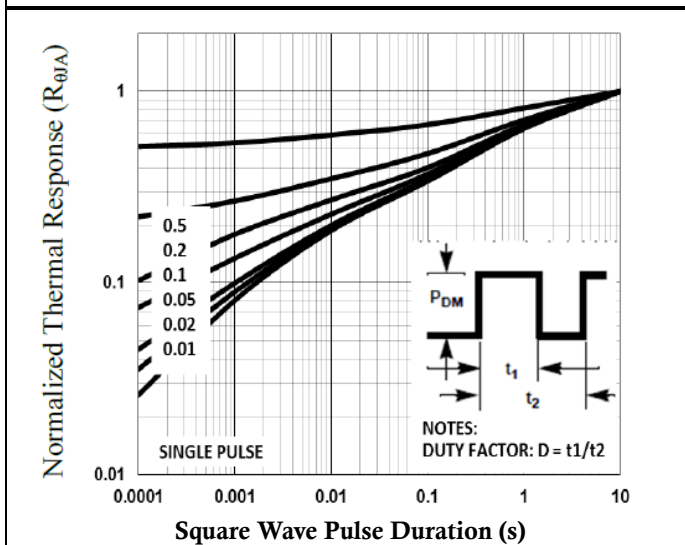
Normalized $R_{DS(ON)}$ vs. T_J



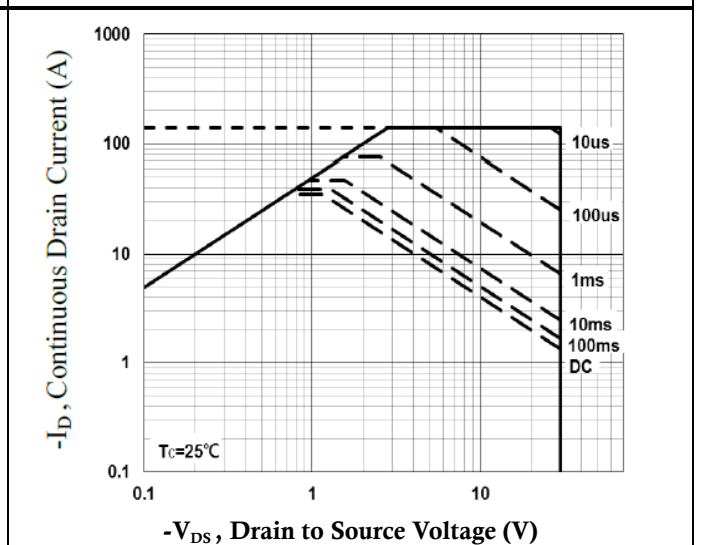
Normalized V_{th} vs. T_J



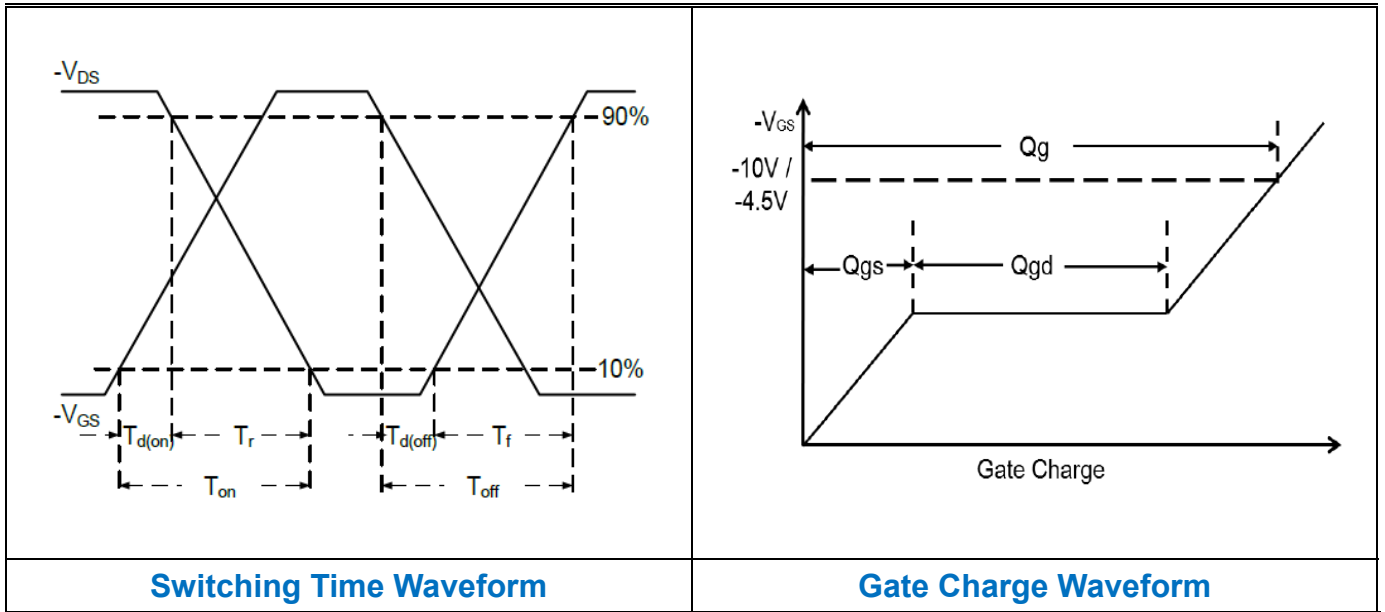
Gate Charge Waveform



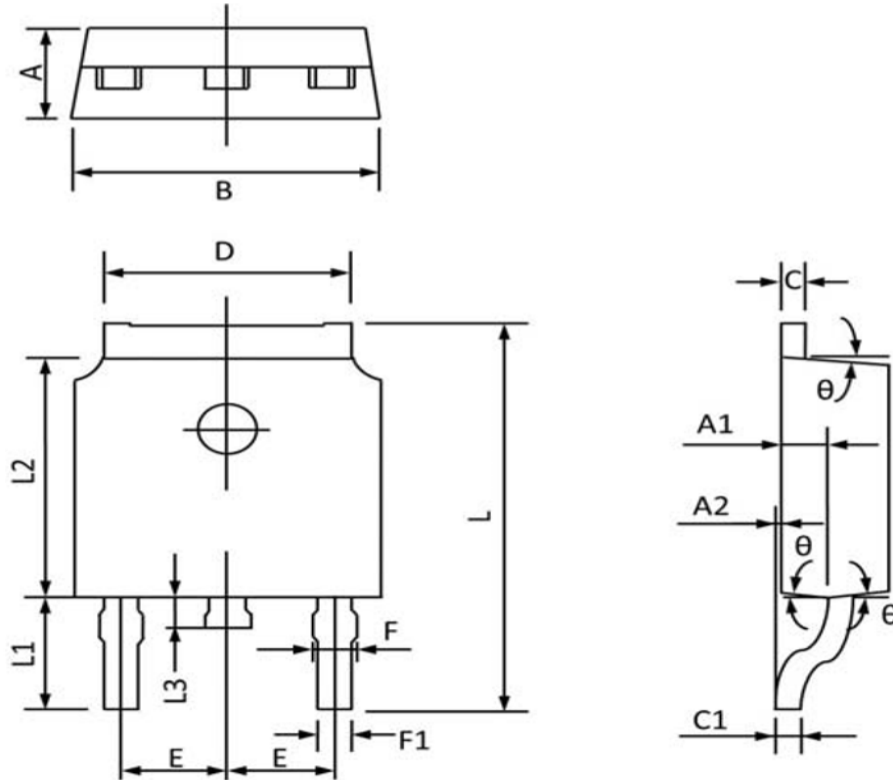
Normalized Transient Impedance



Maximum Safe Operation Area



TO252 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	2.400	2.200	0.094	0.087
A1	1.110	0.910	0.044	0.036
A2	0.150	0.000	0.006	0.000
B	6.800	6.400	0.268	0.252
C	0.580	0.450	0.023	0.018
C1	0.580	0.460	0.023	0.018
D	5.500	5.100	0.217	0.201
E	2.386	2.186	0.094	0.086
F	0.940	0.600	0.037	0.024
F1	0.860	0.500	0.034	0.020
L	10.400	9.400	0.409	0.370
L1	3.000	2.400	0.118	0.094
L2	6.200	5.400	0.244	0.213
L3	1.200	0.600	0.047	0.024
θ	9°	3°	9°	3°