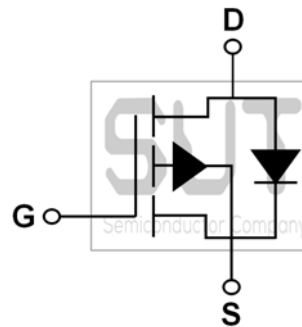
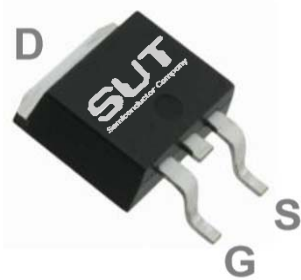


P-Channel 40-V_(D-S) MOSFET

PRODUCT SUMMARY		
B _{VDSS} (V)	R _{DS(on)} (mΩ)(MAX)	I _D (A)
-40	40@V _{GS} =-10V	-22

TO252 Pin Configuration



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

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V _{DS}	-40	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current-Continuous (T _C =25°C)	I _D	-22	A
Drain Current-Continuous (T _C =100°C)		-13.9	A
Drain Current-Pulsed ¹	I _{DM}	-88	A
Single Pulse Avalanche Energy ²	EAS	40.9	mJ
Single Pulse Avalanche Current ²	IAS	-28.6	A
Power Dissipation (T _C =25°C)	P _D	34.7	W
Power Dissipation-Derate above 25°C		0.28	W/°C
Storage Temperature Range	T _{STG}	-50 to 150	°C
Operating Junction Temperature Range	T _J	-50 to 150	°C

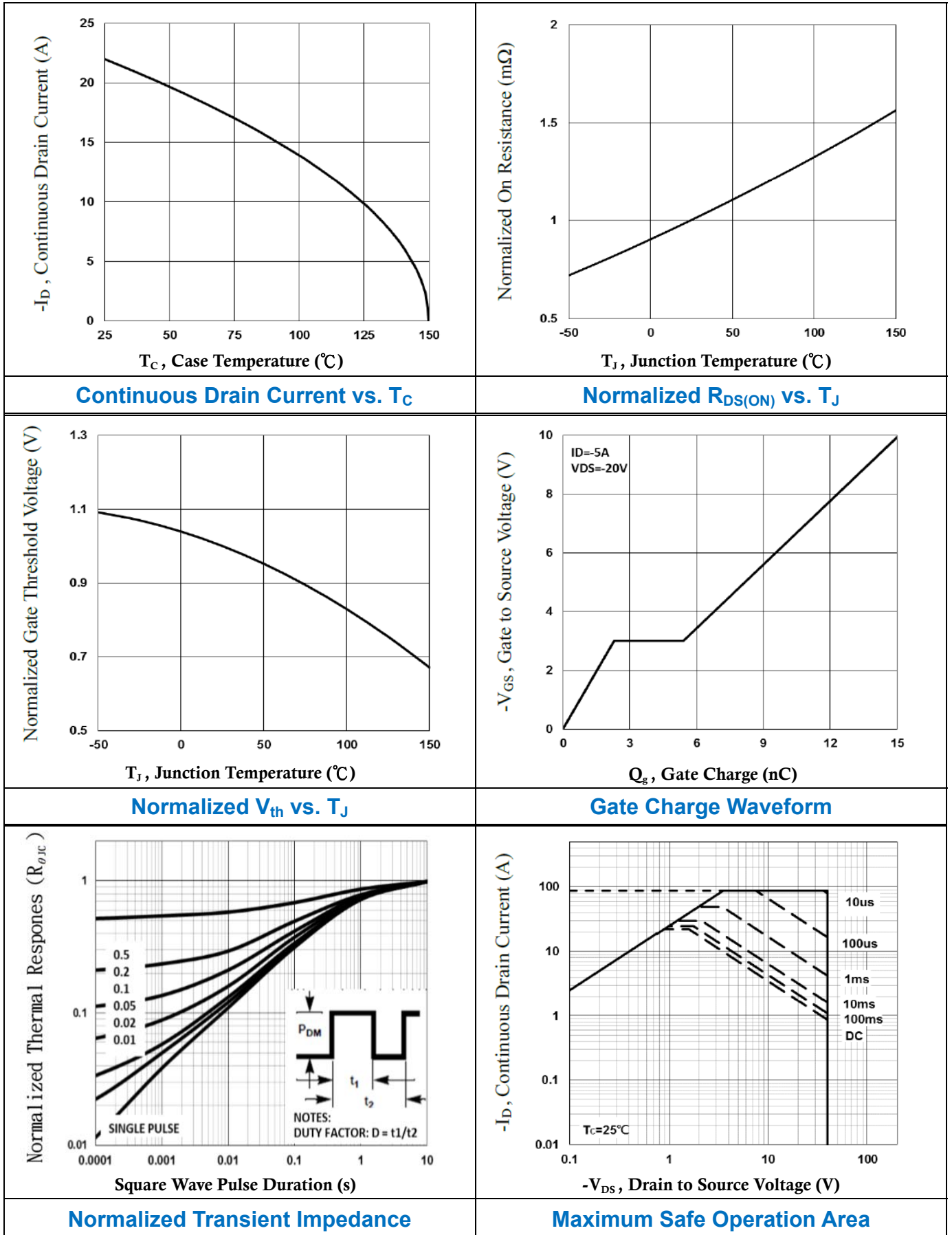
THERMAL CHARACTERISTICS

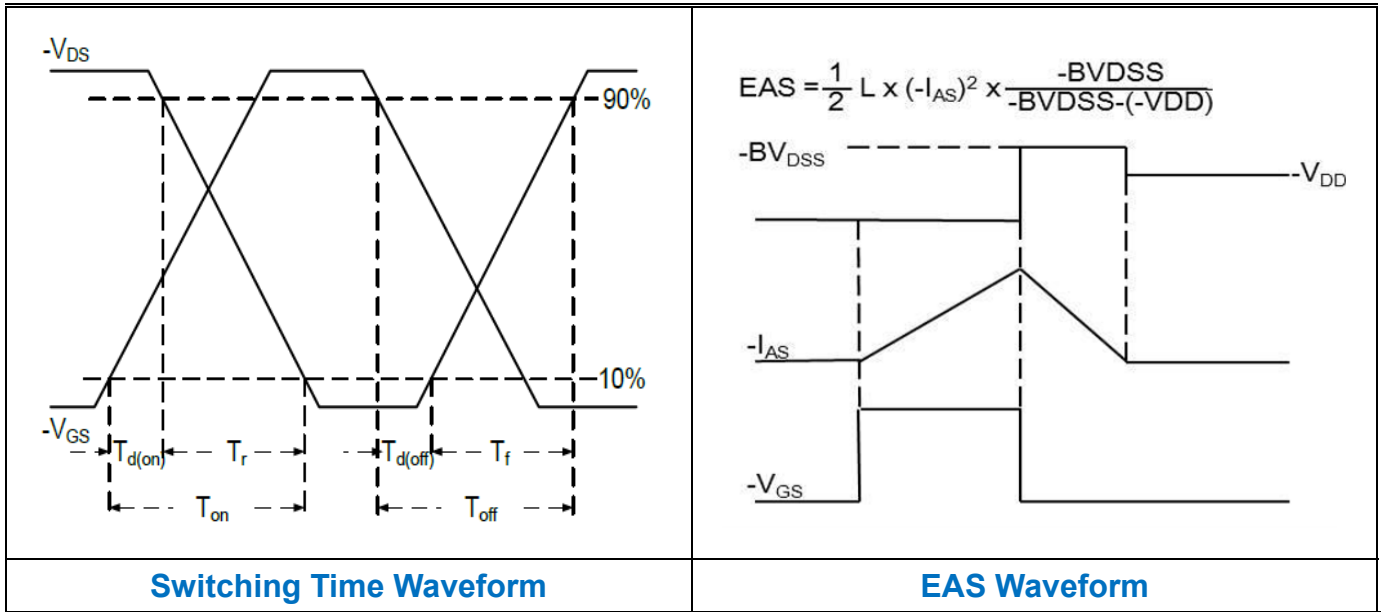
Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction to ambient	R _{θJA}	---	62	°C/W
Thermal Resistance Junction to Case	R _{θJC}	---	3.6	°C/W

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	-40	---	---	V
BV _{DSS} Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =-1mA	---	-0.02	---	V/°C
Drain-Source Leakage Current	I _{DSS}	V _{GS} =0V, V _{DS} =-40V, T _J =25°C	---	---	-1	uA
		V _{GS} =0V, V _{DS} =-32V, 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 =-10A	---	32	40	mΩ
		V _{GS} =-4.5V, I _D =-5A	---	50	65	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{GS} =V _{DS} , I _D =-250uA	-1.2	-1.6	-2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		---	4.18	---	mV/°C
Forward Transconductance	g _{fs}	V _{DS} =-10V, I _D =-5A	---	7	---	S
Dynamic and Switching Characteristics						
Total Gate Charge ^{3, 4}	Q _g	V _{GS} =-4.5V, V _{DS} =-20V, I _D =-5A	---	7.6	15	nC
Gate-Source Charge ^{3, 4}	Q _{gs}		---	2.3	4.5	
Gate-Drain Charge ^{3, 4}	Q _{gd}		---	3.1	6.0	
Turn-On Delay Time ^{3, 4}	T _{d(on)}	V _{GS} =-10V, V _{DD} =-20V, R _G =6Ω, I _D =-1A	---	12	24	ns
Rise Time ^{3, 4}	T _r		---	13.2	26	
Turn-Off Delay Time ^{3, 4}	T _{d(off)}		---	46.8	90	
Fall Time ^{3, 4}	T _f		---	20.4	40	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-25V, F=1MHz	---	1076	2150	pF
Output Capacitance	C _{oss}		---	83	160	
Reverse Transfer Capacitance	C _{rss}		---	64	120	
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, F=1MHz	---	16	---	Ω
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Source Current	I _S	V _G =V _D =0V, Force Current	---	---	-22	A
Pulsed Source Current	I _{SM}		---	---	-44	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-1A, T _J =25°C	---	---	-1.0	V

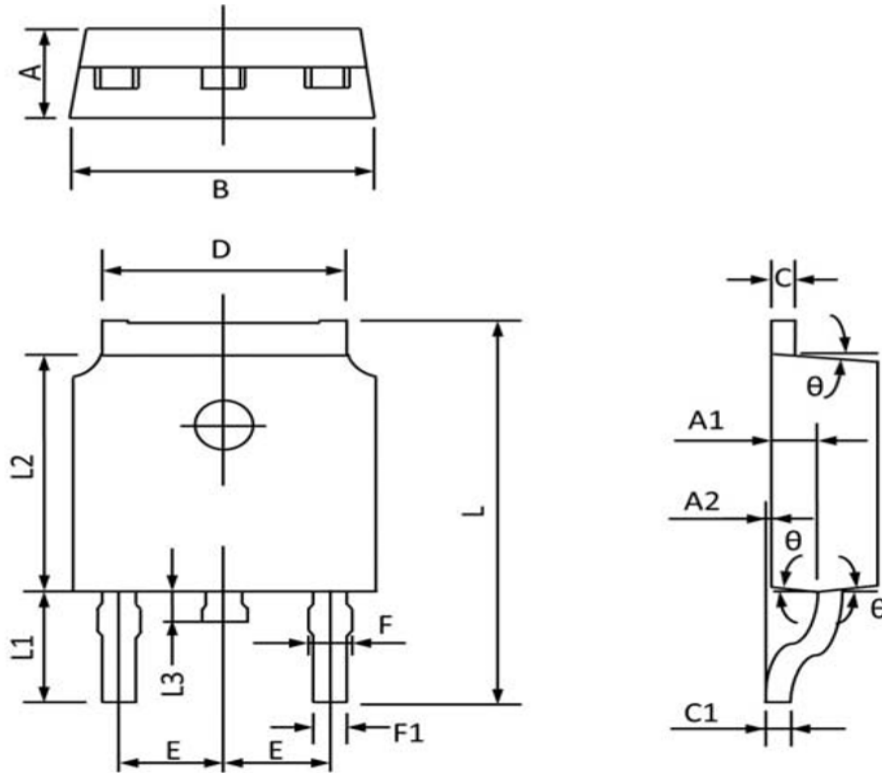
Note :

1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. V_{GS}=-10V, V_{DD}=-25V, L=0.1mH, I_{AS}=-28.6A, R_G=25Ω, Starting T_J=25°C.
3. The data tested by pulsed, pulse width ≤ 300us, duty cycle ≤ 2%.
4. Essentially independent of operating temperature.





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	6.700	6.500	0.264	0.256
C	0.580	0.460	0.0230	0.018
C1	0.580	0.460	0.030	0.018
D	5.460	5.100	0.215	0.201
E	2.386	2.186	0.094	0.086
F	0.940	0.740	0.037	0.029
F1	0.860	0.660	0.034	0.026
L	10.400	9.800	0.409	0.386
L1	2.900(REF)		0.114(REF)	
L2	6.200	6.000	0.244	0.236
L3	1.000	0.600	0.039	0.024
θ	9°	3°	9°	3°