-20V P-Channel Enhancement Mode Field Effect Transistor

MAIN CHARACTERISTICS

I_D	-7.0A
V_{DSS}	-20V
R_{DSON}-typ(@V_{GS}-4.5V)	26mΩ(Typ:20mΩ)
R_{DSON}-typ(@V_{GS}-2.5V)	37mΩ(Typ:27mΩ)

Features

- Advanced Trench Technology
- Provide Excellent RDS(ON) and Low Gate Charge
- Lead free product is acquired

Application

- Load Switch
- PWM Application
- Power management

Mechanical Data

- Case: SOT23-3L
- Epoxy UL: 94V-0.
- Mounting Position: Any.

Maxi M ┐ ┐

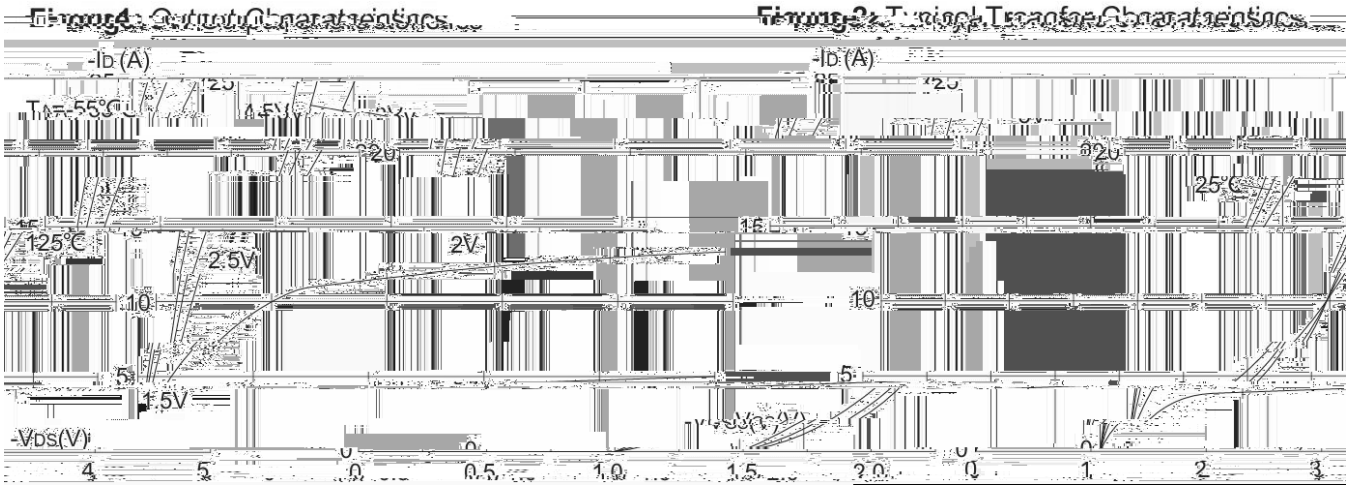
Electrical Characteristics

(Ratings at 25 ambient temperature unless otherwise specified).

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250uA	BV_{DSS}	-20	-	-	V
Gate-Threshold voltage*	V_{DS}=V_{GS}, I_D=-250uA	$V_{GS(th)}$	-0.4	-0.7	-1.0	V
Gate-body Leakage	V_{DS}=±12V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Zero Gate Voltage Drain current	V_{DS}=-20V, V_{GS}=0V	I_{DSS}	-	-	-1	uA
Drain-Source On-Resistance (note 2)	V_{GS}=-4.5V, I_D=-7A	$R_{DS(ON)}$	-	20	26	mq
	V_{GS}=-4.5V, I_D=-6A		-	27	37	
Diode Forward Current		I_S	-	-	-7.0	A
Source Diode Forward Current		I_{SM}	-	-	-20	A
Diode forward voltage(note 1)	I_S=-7A, V_{GS}=0V	VSD	-	-	-1.2	V
Input capacitance	V_{DS}=-10V, V_{GS}=0V,f=1MHz	C_{iss}	-	1200	-	pF
Output capacitance		C_{oss}	-	191	-	
Reverse Transfer capacitance		C_{rss}	-	168	-	
Total gate charge	V_{DS}=-10V,I_D=-5A,V_{GS}=-4.5V	Qg	-	33.7	-	nC
Gate-source charge		Qgs	-	3.5	-	
Gate-drain charge		Qgd	-	10.5	-	
Turn-on Time	V_{DD}=-10V I_D=-5A V_{GS}=-4.5V RGEN=10Ω	$t_{d(on)}$	-	11	-	nS
Rise time		T_r	-	35	-	
Turn-off Time		$t_{d(OFF)}$	-	30	-	
Fall time		t_f	-	10	-	

Notes:1.Repetitive Rating:Pulse Width Limited by Maximum Junction Temperature
2.Pulse Test: Pulse Width 300 s,Duty Cycle 2%

Typical characteristics





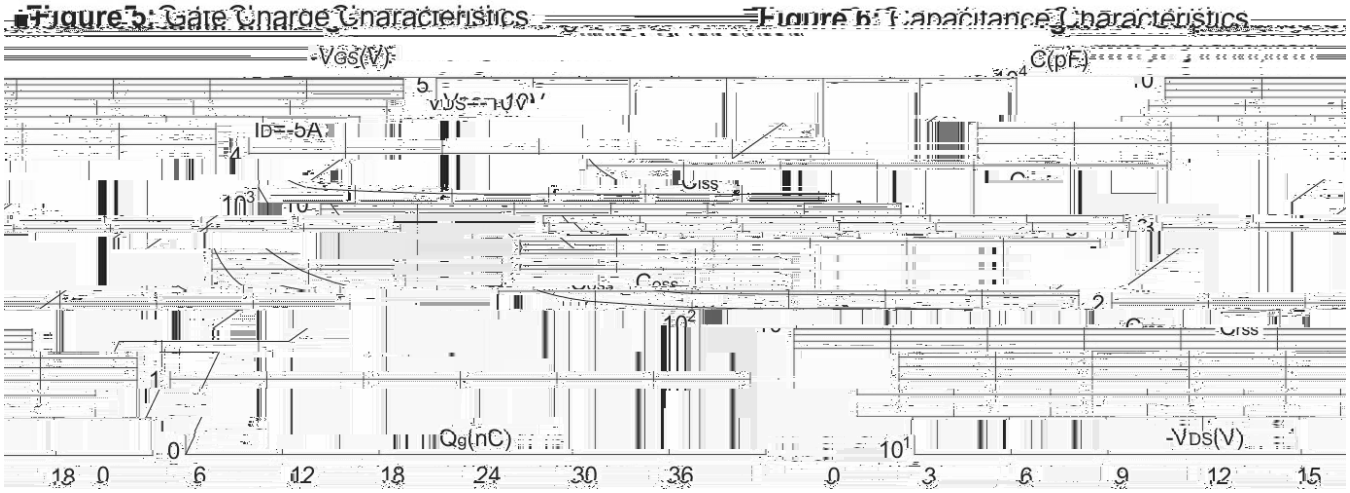


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

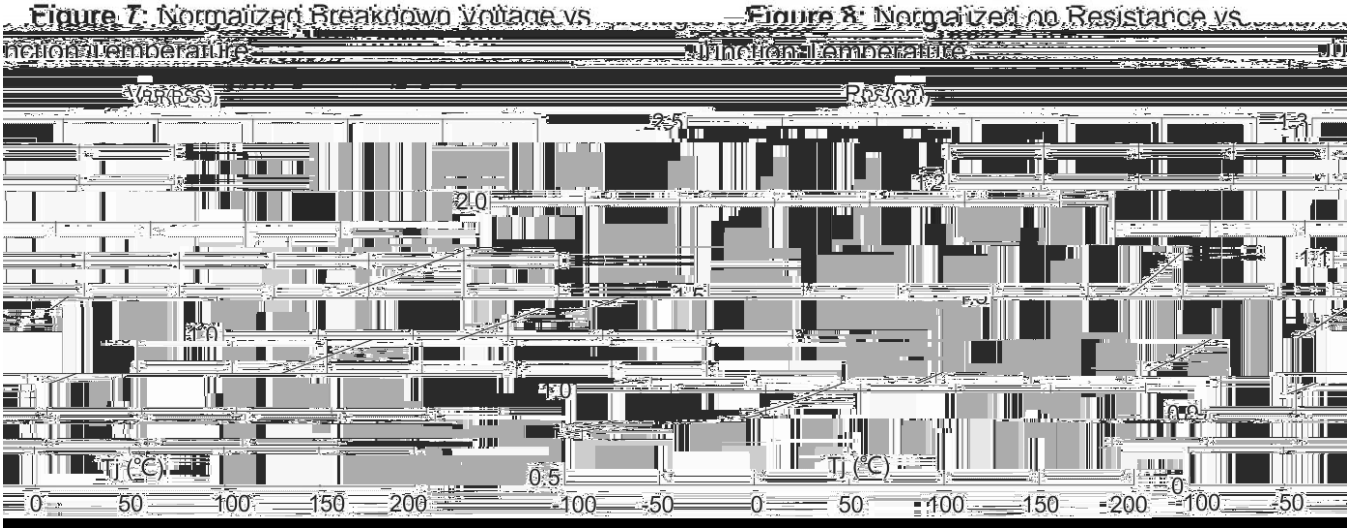


Figure 8: Normalized On Resistance vs. Junction Temperature

Figure 9: Maximum Safe Operating Area

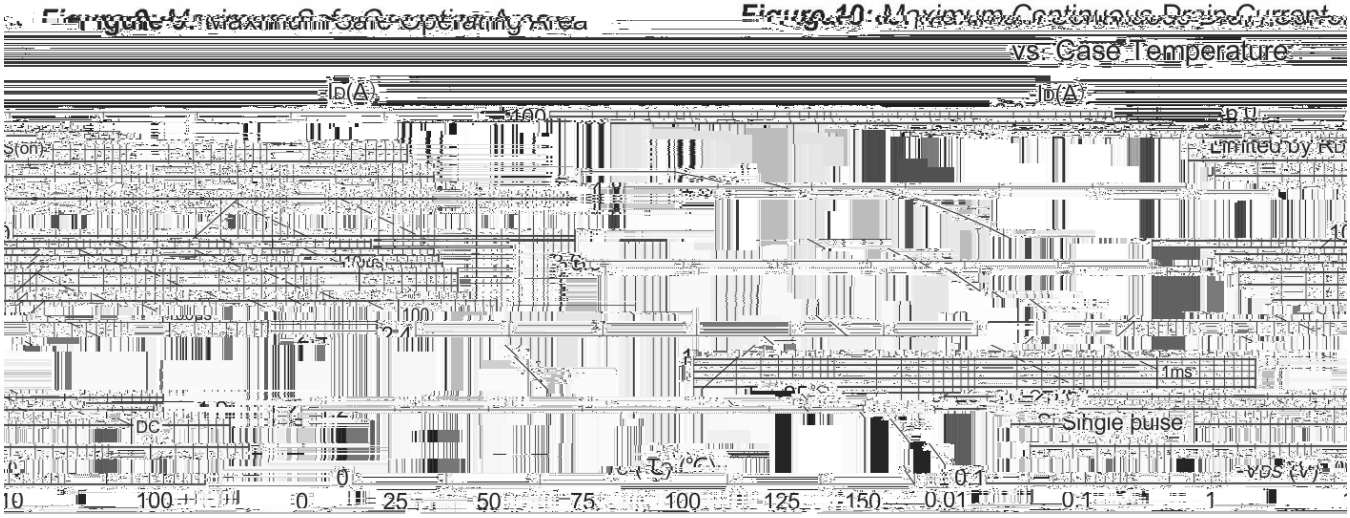
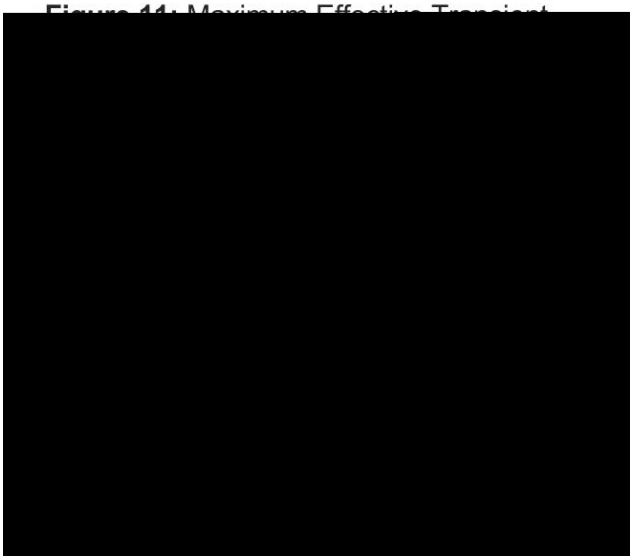


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

Figure 11: Maximum Effective Transient



Ordering information

Package	Packing Description	Base Quantity	Packing Quantity

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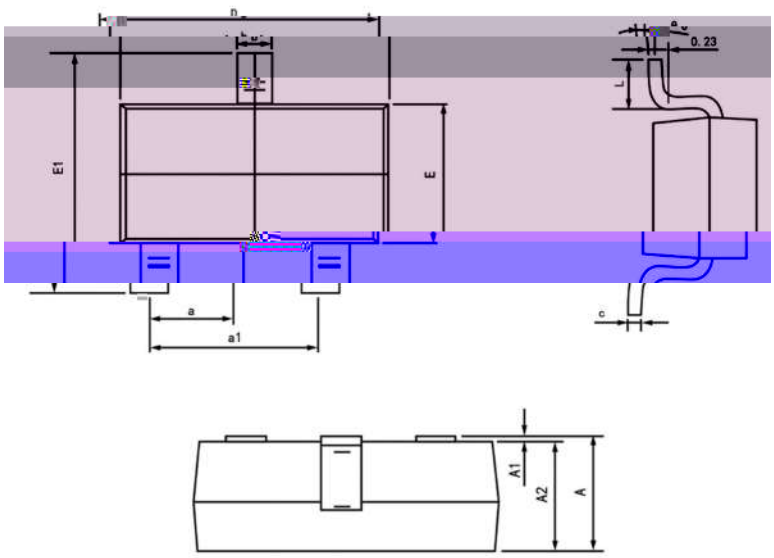

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	3&(2	3 92	3&(2	3 92
A	1.05	1.25	41	49.2
A1	0.10		3.93	
A2	1.05	1.15	41	45
b	0.30	0.50	12	20
c	0.10	0.20	3.93	7.9
D	2.82	3.02	111	119
E	1.50	1.70	59	67
E1	2.65	2.95	104	116
e	0.95		37.4	
e1	1.80	2.00	71	78
L	0.30	0.066	12	26
Θ	8°			

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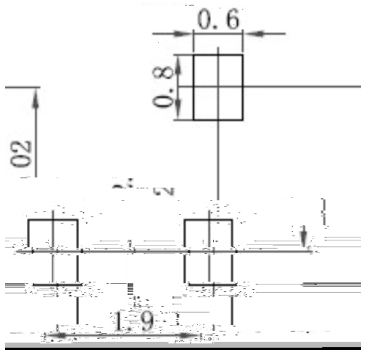

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