



N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	60V
I_D	340mA
$R_{DS(ON)}$ (at $V_{GS}=10V$)	2.5ohm
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	3.0ohm

General Description

Trench Power MV MOSFET technology
Voltage controlled small signal switch
Low input Capacitance
Fast Switching Speed
Low Input / Output Leakage

Applications

Battery operated systems
Solid-state relays
Direct logic-level interface TTL/CMOS

Absolute Maximum Ratings ($T_A=25$ unless otherwise noted)

Parameter	Symbol	Limit	Unit	
Drain-source Voltage	V_{DS}	60	V	
Gate-source Voltage	V_{GS}	30	V	
Drain Current	I_D	$T_A=25$ @ Steady State	340	mA
		$T_A=70$ @ Steady State	272	
Pulsed Drain Current ^A	I_{DM}	1.5	A	
Total Power Dissipation @ $T_A=25$	P_D	350	mW	
Thermal Resistance Junction-to-Ambient @ Steady State ^B	R_{JA}	357	/ W	

Junction and Storage Temperature Range

T_J, T_{STG} -55



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Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	
Gate-Body Leakage Current	I _{GSS1}	V _{GS} = 30V, V _{DS} =0V			100	nA
	I _{GSS2}	V _{GS} = 20V, V _{DS} =0V			50	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250	1	1.6	2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D =300mA		1.2	2.5	
		V _{GS} = 4.5V, I _D =200mA		1.3	3.0	
Forward Transconductance	g _{fs}	V _{DS} =10 V, I _D =200mA	80			ms
Diode Forward Voltage	V _{SD}	I _S =300mA, V _{GS} =0V			1.2	V
Maximum Body-Diode Continuous Current	I _S				340	mA
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1MHZ		27.5		pF
Output Capacitance	C _{oss}			2.75		
Reverse Transfer Capacitance	C _{rss}			1.9		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =30V, I _D =0.3A		1.6		nC
Gate-Source Charge	Q _{gs}			0.47		
Gate-Drain Charge	Q _{gd}			0.25		
Reverse Recovery Charge	Q _{rr}	I _F =0.3A, di/dt=-100A/us		2.5		
Reverse Recovery Time	t _{rr}			11.5		
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DD} =30V, I _D =300mA, R _{GEN} =6		3.3		ns
Turn-on Rise Time	t _r			19		
Turn-off Delay Time	t _{D(off)}			9.6		
Turn-off fall Time	t _f			49		

A. Pulse Test: Pulse Width 300us, Duty cycle 2%.

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

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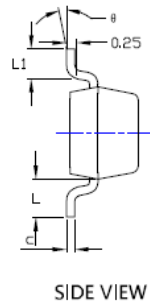
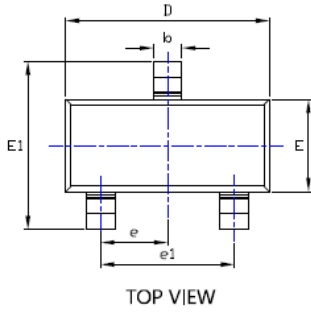




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SOT-23 Package information



SYMBOL	DIMENSIONS					
	INCHES			MILLimeter		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.035	---	0.045	0.900	---	1.150
A1	0.000	---	0.004	0.000	---	0.100
A2	0.035	0.038	0.041	0.900	0.975	1.050
b	0.012	0.016	0.020	0.300	0.400	0.500
c	0.004	---	0.008	0.100	---	0.200
D	0.110	0.114	0.118	2.800	2.900	3.000
E	0.047	0.051	0.055	1.200	1.300	1.400
E1	0.089	0.094	0.100	2.250	2.400	2.550

MIN.	0.000	0.000
MAX.	0.000	0.000
REF.	---	---

A1	0.000	0.004	0.008
L	0.000	0.000	0.000
L1	0.000	0.000	0.000
b	0.000	0.000	0.000

LINE MOLD FLASH



NOTE:
1 PACKAGE BODY SIZES EXCEPT THE PAD LAYOUTS

OUT

SUGGESTED SOLDER PAD LAY

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