

30V N-CHANNEL ENHANCEMENT MODE MOSFET

VOLTAGE 30 Volts **CURRENT** 2.9 Amperes

SOT-23 Unit : inch(mm)

FEATURES

- $R_{DS(ON)}, V_{GS}@10V, I_D@3.1A < 57\text{ m}\Omega$
- $R_{DS(ON)}, V_{GS}@4.5V, I_D@2.8A < 94\text{ m}\Omega$
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Specially Designed for DC/DC Converters
- Low Gate Charge
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Apporx. Weight : 0.0003 ounces, 0.0084grams
- Marking : 94

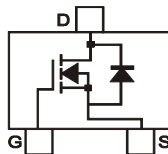
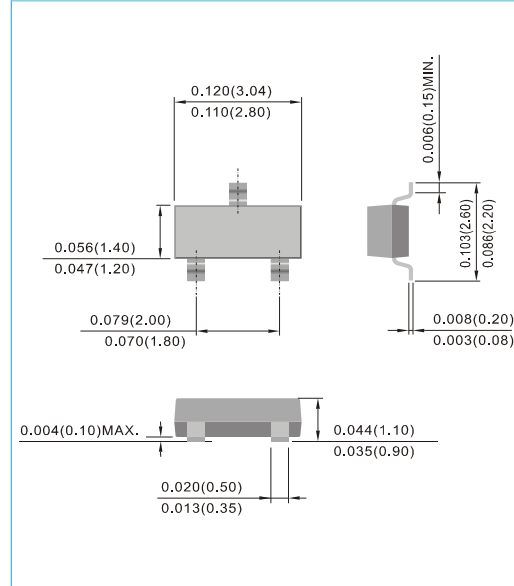


Fig.19 (TOP VIEW)

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER			SYMBOL	LIMIT	UNITS
Drain-Source Voltage			V _{DS}	30	V
Gate-Source Voltage			V _{GS}	±20	V
Continuous Drain Current	Steady-State	T _A =25°C	I _D	2.9	A
Pulsed Drain Current			I _{DM}	16	A
Power Dissipation (Notes 1)	Steady-State	T _A =25°C	P _D	0.7	W
Typical Thermal Resistance (Notes 1)			R _{θJA}	111	°C/W
Operating Junction and Storage Temperature Range			T _J , T _{STG}	-55 to + 150	°C

NOTES:

1. Mounted on 7.5cm² FR-4 PCB .

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	30	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	2.0	3.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =3.1A	-	27	57	mΩ
		V _{GS} =4.5V, I _D =2.8A	-	40	94	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V	-	-	0.5	μA
Gate -Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Diode Forward Voltage	V _{SD}	I _S =1.25A, V _{GS} =0V	-	0.9	1.2	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} =15V, I _D =3.1A V _{GS} =10V	-	12.63	-	nC
Gate-Source Charge	Q _{gs}		-	2.25	-	
Gate-Drain Charge	Q _{gd}		-	2.62	-	
Turn-On Delay Time	td _{on}	V _{DS} =15V, V _{GS} =10V, R _G =6Ω, R _L =5Ω	-	11.6	-	ns
Turn-Off Delay Time	td _{off}		-	35.2	-	
Turn-On Rise Time	t _r		-	19.6	-	
Turn-Off Fall Time	t _f		-	8.2	-	
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V f=1.0MHz	-	607	-	pF
Output Capacitance	C _{oss}		-	66	-	
Reverse Transfer Capacitance	C _{rss}		-	59	-	