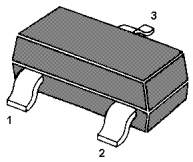
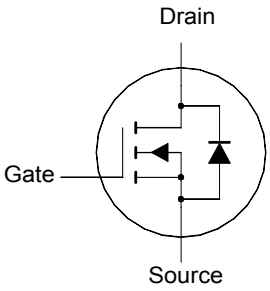
MMFTN123 N-Channel Logic Level Enhancement Mode Field Effect Transistor



1. Gate 2. Source 3. Drain
SOT-23 Plastic Package



Absolute Maximum Ratings (T_a = 25 °C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	100	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	170	mA
Peak Drain Current	I_{DM}	680	mA
Total Power Dissipation	P_{tot}	360	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C

Thermal Characteristics

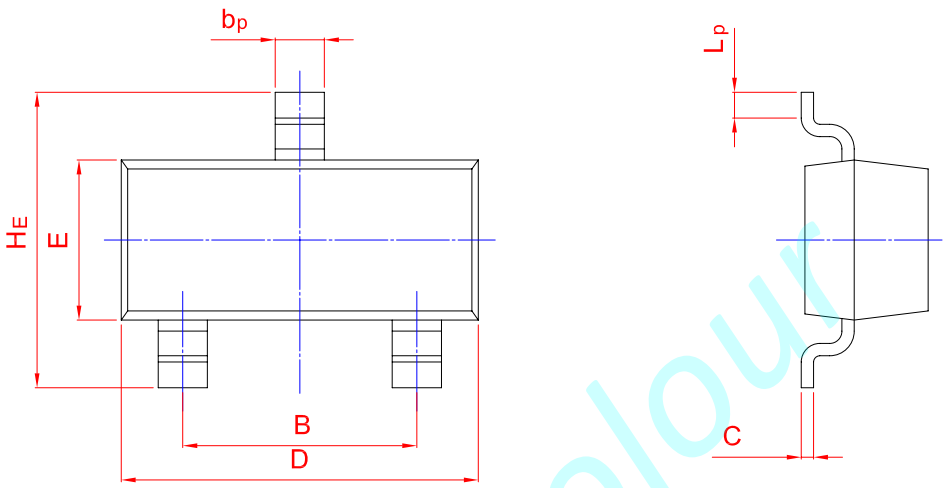
Parameter	Symbol	Value	Unit
Thermal Resistance from Juntion to Ambient	R_{thj-a}	347	K/W

Characteristics at T_a = 25 °C unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 250 µA	$V_{(BR)DSS}$	100	-	-	V
Gate-Source Threshold Voltage at V_{GS} = V_{DS}, I_D = 1 mA	V_{GSth}	0.8	-	2	V
Drain-Source Leakage Current at V_{DS} = 100 V at V_{DS} = 20 V	I_{DSS}	- -	- -	1 10	µA nA
Gate-Source Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	-	± 50	nA
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 170 mA at V_{GS} = 4.5 V, I_D = 170 mA	$R_{DS(ON)}$	- -	- -	6 10	Ω
Input Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	73	-	pF
Output Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	7	-	pF
Reverse Transfer Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	3.4	-	pF
Turn-On Delay Time at V_{DD} = 30 V, I_D = 280 mA, V_{GS} = 10 V, R_G = 6 Ω	$t_{d(on)}$	-	-	3.4	ns
Turn-On Rise Time at V_{DD} = 30 V, I_D = 280 mA, V_{GS} = 10 V, R_G = 6 Ω	t_r	-	-	18	ns
Turn-Off Delay Time at V_{DD} = 30 V, I_D = 280 mA, V_{GS} = 10 V, R_G = 6 Ω	$t_{d(off)}$	-	-	31	ns
Turn-Off Fall Time at V_{DD} = 30 V, I_D = 280 mA, V_{GS} = 10 V, R_G = 6 Ω	t_f	-	-	5	ns

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20