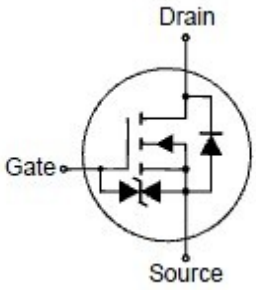
MMBF170L

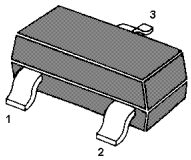
N-Channel Enhancement Mode Field Effect Transistor

Features

- Low on resistance $R_{DS(ON)}$
- Low gate threshold voltage
- Low input capacitance
- ESD protected up to 2KV

Marking Code:6Z





1.G 2.S 3.D

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	300	mA
Drain Current (Pulse Width ≤ 10 μs)	I_{DM}	800	mA
Total Power Dissipation	P_{tot}	350	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
Drain Source Breakdown Voltage at I_D = 10 μA	BV_{DSS}	60	-	V
Zero Gate Voltage Drain Current at V_{DS} = 60 V	I_{DSS}	-	1	μA
Gate Source Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	± 10	μA
Gate Threshold Voltage at V_{DS} = 10 V, I_D = 250 μA	$V_{GS(th)}$	1	2.5	V
Static Drain Source On-Resistance at V_{GS} = 10 V, I_D = 500 mA at V_{GS} = 4.5 V, I_D = 200 mA	$R_{DS(ON)}$	- -	3 4	Ω
Forward Transconductance at V_{DS} = 10 V, I_D = 200 mA	g_{fs}	80	-	mS
Input Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	50	pF
Output Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	25	pF
Reverse Transfer Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	5	pF

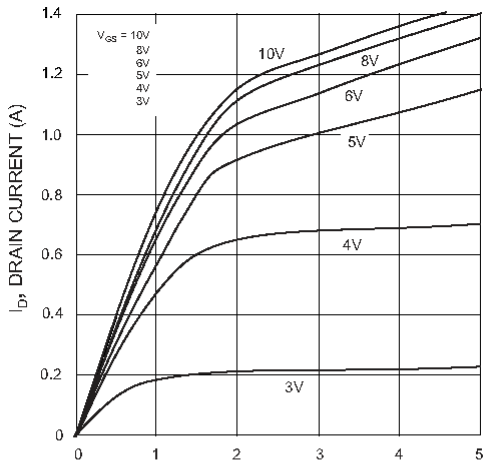


Fig. 1 Typical Output Characteristics

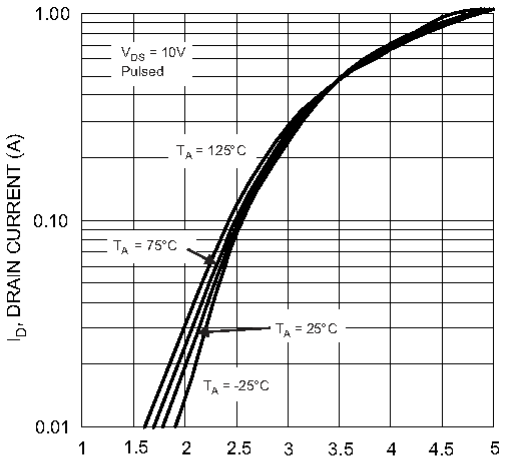


Fig. 2 Typical Transfer Characteristics

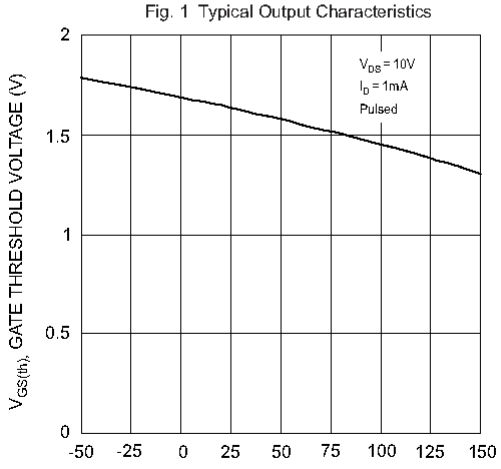


Fig. 3 Gate Threshold Voltage
vs. Channel Temperature

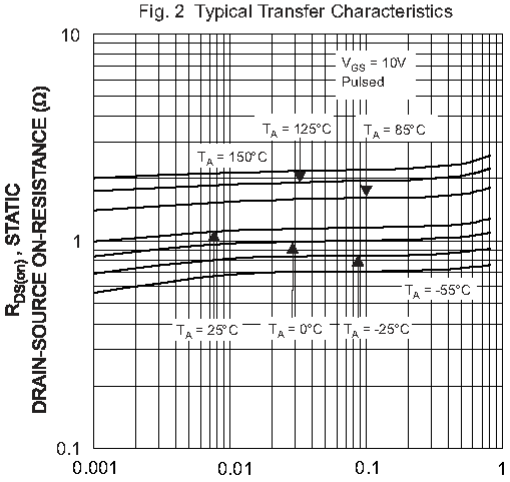


Fig. 4 Static Drain-Source On-Resistance
Vs. Drain Current

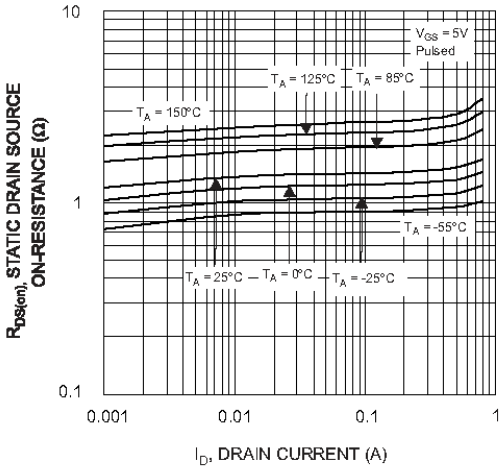


Fig. 5 Static Drain-Source On-Resistance
vs. Drain Current

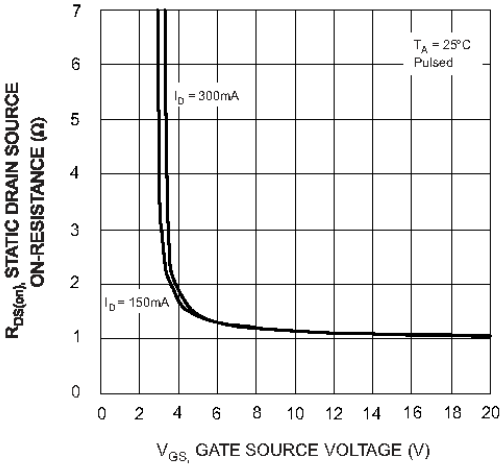
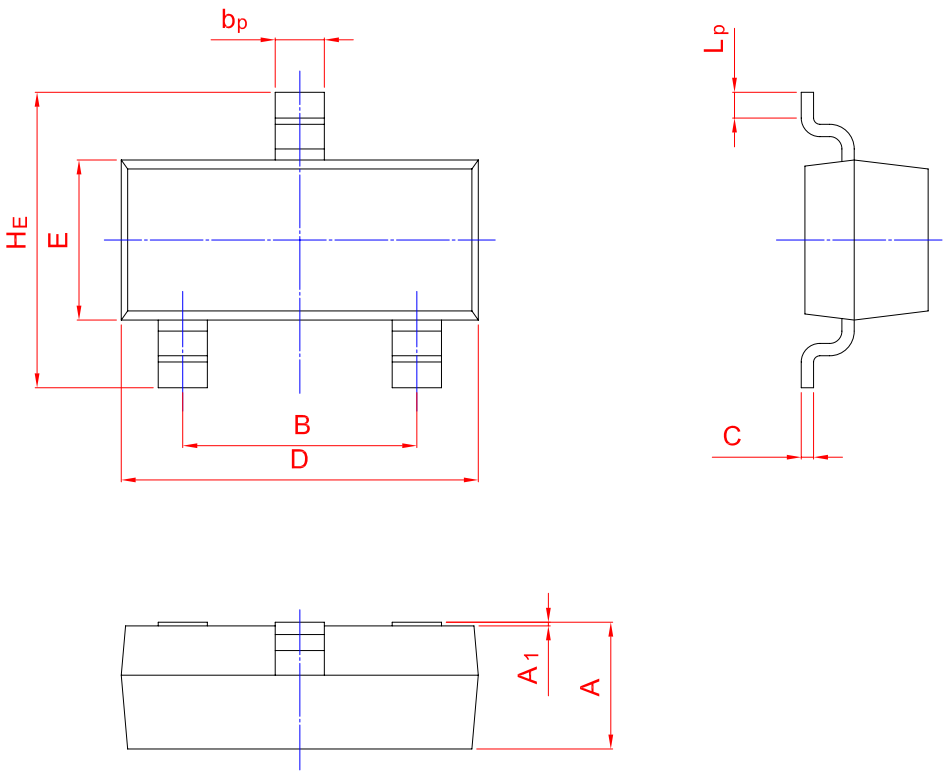


Fig. 6 Static Drain-Source On-Resistance
vs. Gate-Source Voltage

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

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