

# MLCCBASE

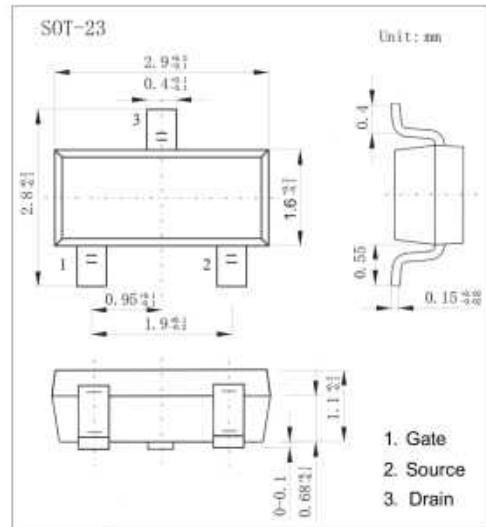
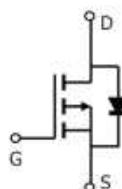
Many Micro Passive & Semiconductor

## P-Channel MOSFET

### BSS84

#### ■ Features

- $V_{DS} (V) = -50V$
- $I_D = -130 \text{ mA}$
- $R_{DS(ON)} < 10\Omega$  ( $V_{GS} = -5V$ )



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-50	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current	$I_D$	-130	mA
Pulsed Drain Current ( $t_p \leq 10\mu\text{s}$ )	$I_{DM}$	-520	
Power Dissipation	$P_D$	225	mW
Thermal Resistance, Junction-to-Ambient	$R_{thJA}$	556	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Junction Storage Temperature Range	$T_{stg}$	-55 to 150	

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■ Electrical Characteristics Ta = 25°C Unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =-250μA, V <sub>Gs</sub> =0V	-50			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>Ds</sub> =-25V, V <sub>Gs</sub> =0V			-0.1	μA
		V <sub>Ds</sub> =-50V, V <sub>Gs</sub> =0V			-15	
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>Ds</sub> =0V, V <sub>Gs</sub> =±20V			±10	μA
Gate Threshold Voltage	V <sub>Gs(th)</sub>	V <sub>Ds</sub> =V <sub>Gs</sub> , I <sub>D</sub> =-1.0mA	-0.8		-2	V
Static Drain-Source On-Resistance	R <sub>Ds(on)</sub>	V <sub>Gs</sub> =-5V, I <sub>D</sub> =-100mA			10	Ω
Forward Transconductance	g <sub>FS</sub>	V <sub>Ds</sub> =-25V, I <sub>D</sub> =-100mA, f=1.0KHz	50			mS
Input Capacitance	C <sub>iss</sub>	V <sub>Gs</sub> =0V, V <sub>Ds</sub> =-5V, f=1MHz		30		pF
Output Capacitance	C <sub>oss</sub>			10		
Reverse Transfer Capacitance	C <sub>rss</sub>			5		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>DD</sub> =-15V, I <sub>D</sub> =-0.25A, R <sub>L</sub> =50Ω <sup>1)</sup>		2.5		ns
Turn-On Rise Time	t <sub>r</sub>			1		
Turn-Off DelayTime	t <sub>d(off)</sub>			16		
Turn-Off Fall Time	t <sub>f</sub>			8		
Gate Charge	Q <sub>T</sub>	I <sub>D</sub> =-130mA, V <sub>Gs</sub> =0V		6000		PC
Maximum Body-Diode Continuous Current	I <sub>S</sub>				-0.13	A
Maximum Body-Diode Pulsed Current	I <sub>SM</sub>				-0.52	
Diode Forward Voltage	V <sub>SD</sub>	I <sub>SD</sub> =-130mA, V <sub>Gs</sub> =0V		-2.5		V

1) Switching Time is Essentially Independent of Operating Temperature.

#### ■ Marking

Marking	PD
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■ Typical Characteristics

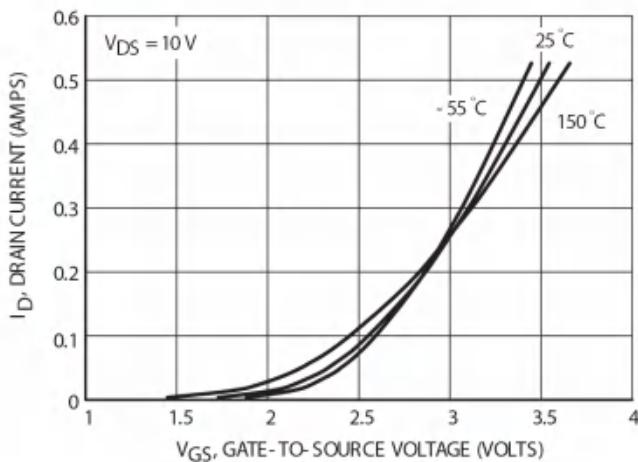


FIG1. Transfer Characteristics

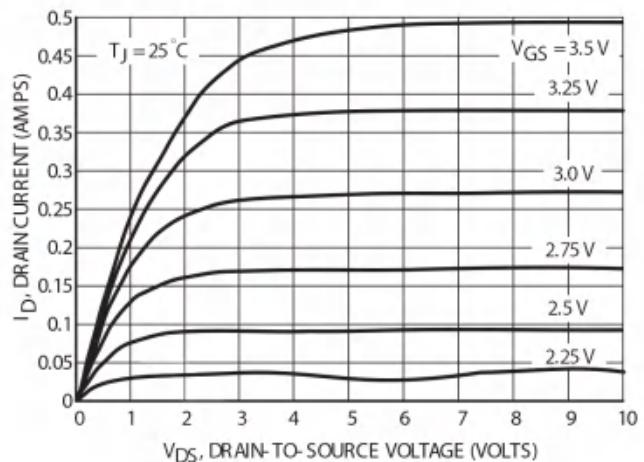


FIG2. On-Region Characteristics

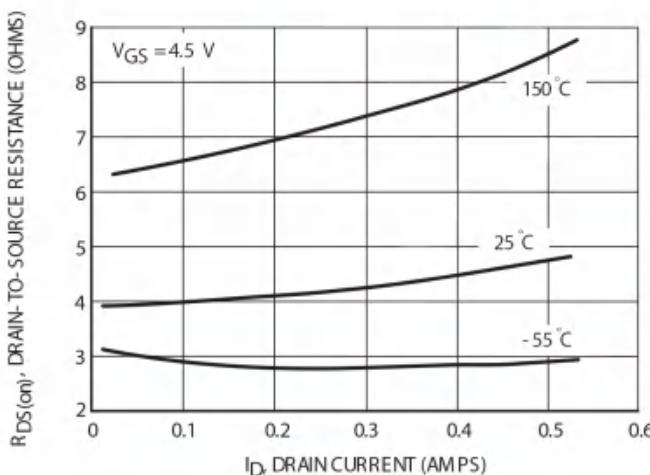


FIG3. On-Resistance versus Drain Current

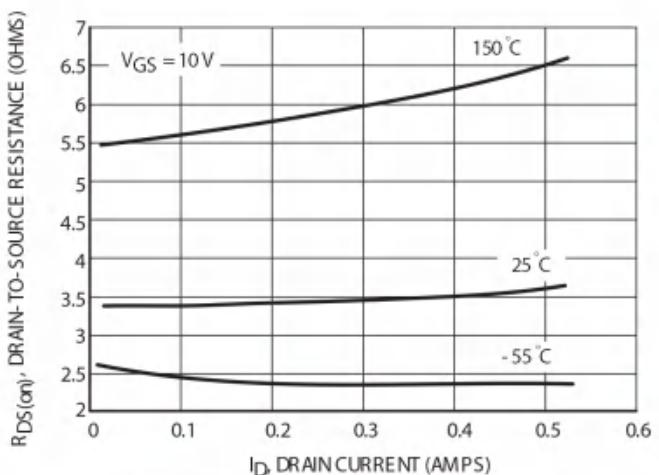


FIG4. On-Resistance versus Drain Current

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#### ■ Typical Characteristics

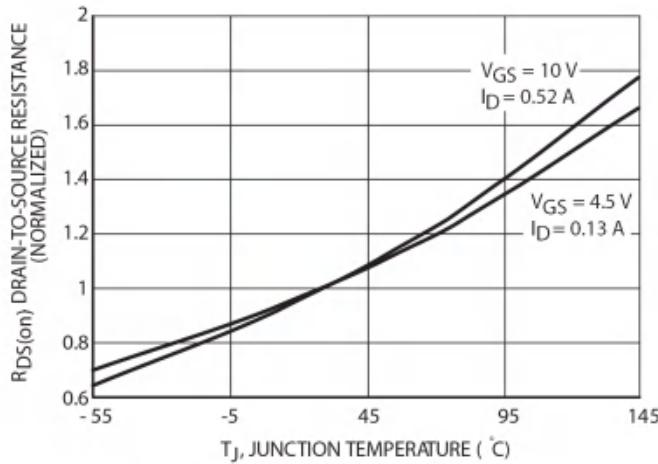


FIG5. On-Resistance Variation with Temperature

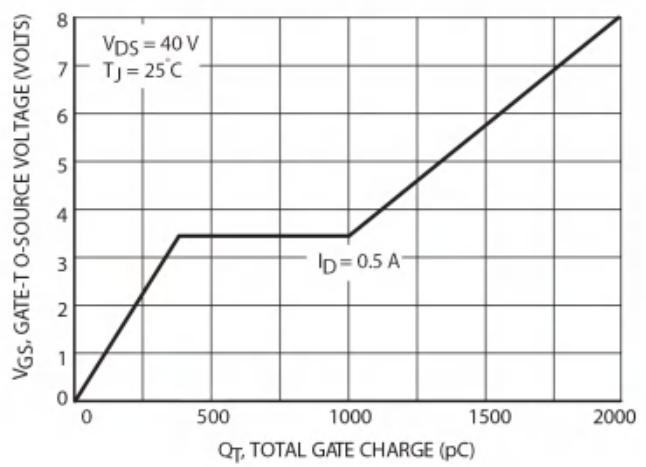


FIG6. Gate Charge

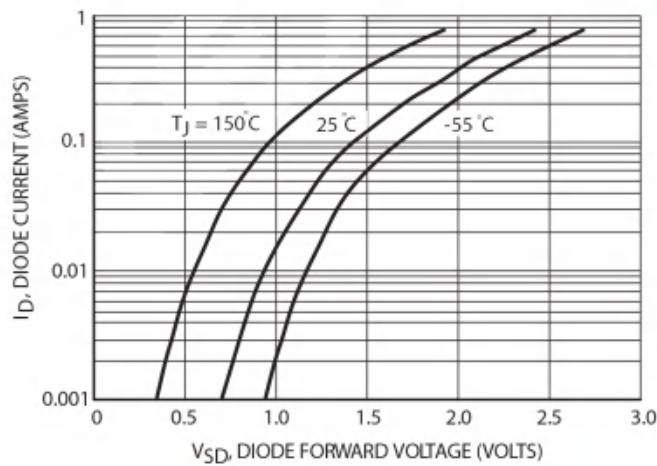


FIG7. Body Diode Forward Voltage