

### Features

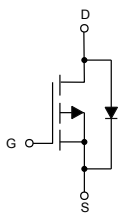
- Load Switch for Portable Devices
- DC/DC Converter
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings

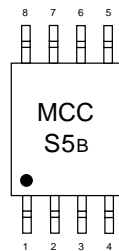
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 120°C/W Junction to Ambient<sup>(Note 1)</sup>

Parameter	Symbol	Rating	Unit
Drain -source Voltage	$V_{DS}$	-20	V
Gate -Source Voltage	$V_{GS}$	$\pm 8$	V
Continuous Drain Current	$I_D$	-8.2	A
Continuous Source-Drain Diode Current	$I_S$	-0.95	A
Total Power Dissipation	$P_D$	1.05	W

### Internal Structure and Marking Code

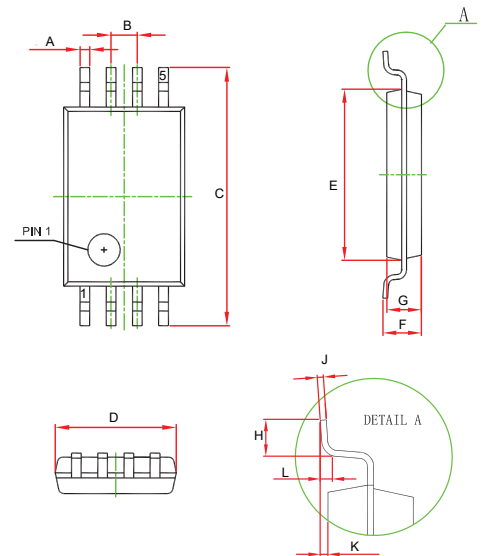


Pin1&5&8----Drain  
Pin2&3&6&7----  
Source Pin4----Gate



## P-Channel MOSFET

### TSSOP-8



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.007	.011	0.170	0.270	
B	0.026BSC.		0.650BSC.		
C	0.244	0.260	6.200	6.600	
D	0.112	0.120	2.850	3.050	
E	0.169	0.177	4.300	4.500	
F	0.039	0.047	1.000	1.200	
G	0.035	0.043	0.900	1.100	
H	0.016	0.031	0.400	0.800	
J	0.003	0.008	0.077	0.200	
K	0.001	0.007	0.020	0.180	
L	0.010TYP.		0.250TYP.		

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.55		-0.9	V
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-20V, V_{GS}=0V$			-1	$\mu A$
Drain-Source On-Resistance <sup>(Note 2)</sup>	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-4.2A$		7.0	8.5	m $\Omega$
		$V_{GS}=-2.5V, I_D=-3.2A$		8.0	11	
		$V_{GS}=-1.8V, I_D=-2.2A$		10	14	
Forward Transconductance <sup>(Note 2)</sup>	$g_{FS}$	$V_{DS}=-5V, I_D=-4.1A$	6			S
<b>Dynamic Characteristics</b>						
Input Capacitance <sup>(Note 1,3)</sup>	$C_{iss}$	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$		1255		pF
Output Capacitance <sup>(Note 1,3)</sup>	$C_{oss}$			220		
Reverse Transfer Capacitance <sup>(Note 1,3)</sup>	$C_{rss}$			190		
Total Gate Charge <sup>(Note 1)</sup>	$Q_g$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$		29		nC
Gate-Source Charge <sup>(Note 1)</sup>	$Q_{gs}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$		5.2		
Gate-Drain Charge <sup>(Note 1)</sup>	$Q_{gd}$			6.3		
Gate Resistance <sup>(Note 1,3)</sup>	$R_g$	$f=1MHz$		3.6		$\Omega$
Turn-On Delay Time <sup>(Note 1,3)</sup>	$t_{d(on)}$	$V_{DD}=-4V, V_{GEN}=-4.5V, R_L=1.2\Omega, I_D=-3.3A, R_G=1\Omega$		230		ns
Turn-On Rise Time <sup>(Note 1,3)</sup>	$t_r$			800		
Turn-Off Delay Time <sup>(Note 1,3)</sup>	$t_{d(off)}$			3000		
Turn-Off Fall Time <sup>(Note 1,3)</sup>	$t_f$			2000		
<b>Drain-Source Body Diode Characteristics</b>						
Continuous Source-Drain Diode Current	$I_S$	$T_C=25^\circ C$			-8.2	A
Pulse Diode Forward Current <sup>(Note 2)</sup>	$I_{SM}$				-20	
Body Diode Voltage	$V_{SD}$	$I_F=-8.2A$		-0.8	-1.2	V

Note:

1. Guaranteed by Design, Not Subject to Production Testing.
2. Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .
3. These Parameters Have No Way to Verify.

## Curve Characteristics

Fig. 1 - Typical Output Characteristics

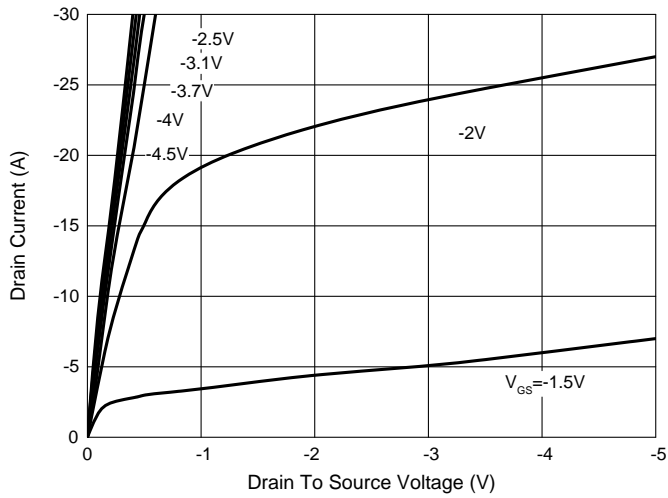


Fig. 2 - Normalized On Resistance Characteristics

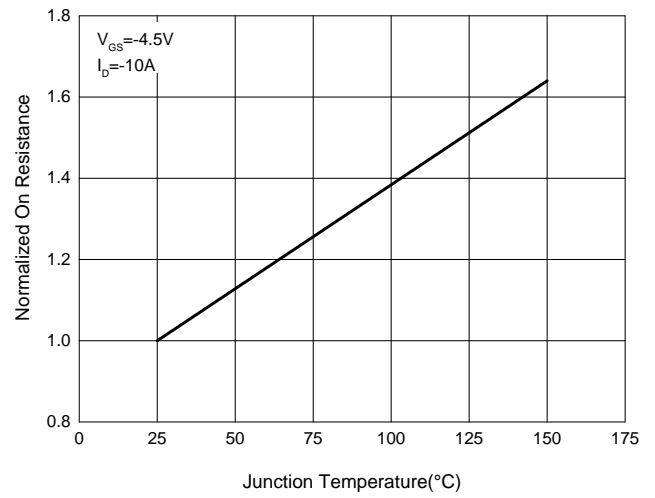


Fig. 3 - Transfer Characteristics

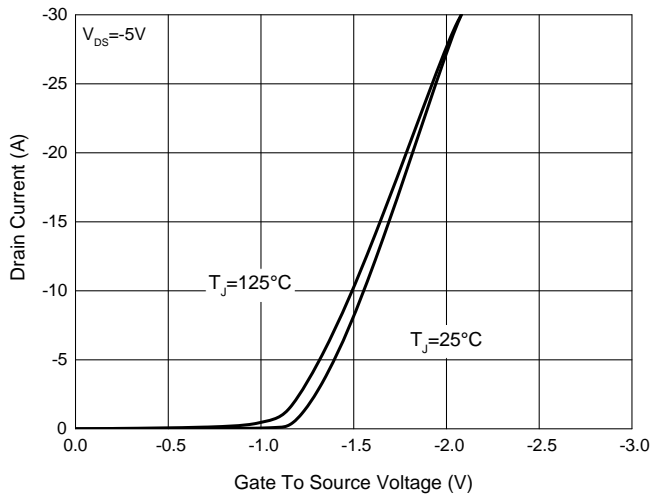


Fig. 4 - Total Gate Charge Characteristics

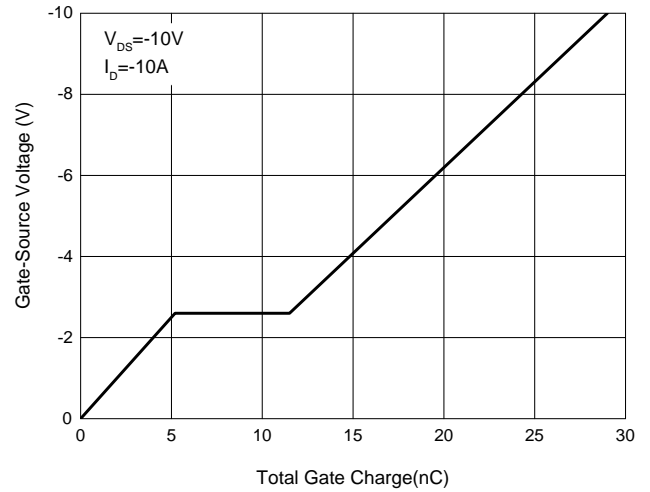


Fig. 5 -  $R_{DS(ON)} - I_D$

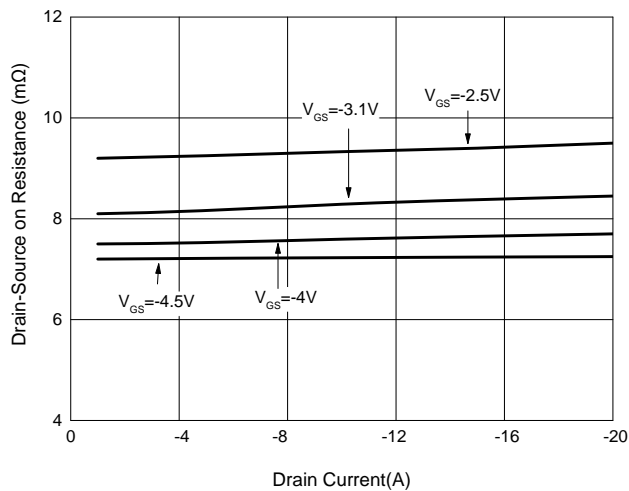
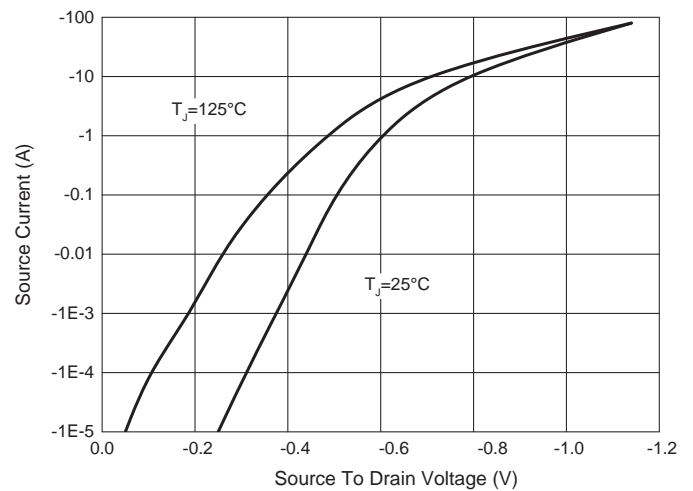


Fig. 6 -  $I_S - V_{SD}$



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:5Kpcs/Reel

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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