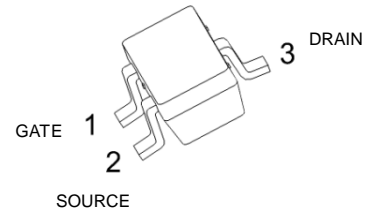
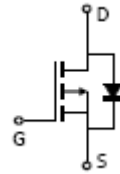




### MT3407 P-Channel 30-V(D-S) MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-30V	60mΩ@-10 V	-4.1A
	87mΩ@-4.5V	



#### General Description

The MT3407 uses advanced trench technology to provide excellent  $R_{DS(on)}$  with low gate charge. This device is suitable for use as a load switch or in PWM applications.

**MARKING : R7**

**SOT23-3L**

#### Maximum ratings ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-Source voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	-4.1	A
Drain Current-Pulsed	$I_{DM}$	-20	A
Power Dissipation	$P_D$	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$



## MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^{\circ}\text{C}$  unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
<b>Static characteristics</b>							
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V	
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	$\mu A$	
Gate -source leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 100$	nA	
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$		50	60	m $\Omega$	
		$V_{GS} = -4.5V, I_D = -3A$		68	87	m $\Omega$	
Forward transconductance (note 1)	$g_{FS}$	$V_{DS} = -5V, I_D = -4A$	5.5			S	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.4	-3	V	
Diode forward voltage (note 1)	$V_{SD}$	$I_S = -1A, V_{GS} = 0V$			-1	V	
<b>Dynamic characteristics (note 2)</b>							
Input capacitance	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		700		pF	
Output capacitance	$C_{oss}$				120		pF
Reverse transfer capacitance	$C_{rss}$				75		pF
<b>Switching characteristics (note 2)</b>							
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 3\Omega$		8.6		ns	
Turn-on rise time	$t_r$				5.0		ns
Turn-off delay time	$t_{d(off)}$				28.2		ns
Turn-off fall time	$t_f$				13.5		ns

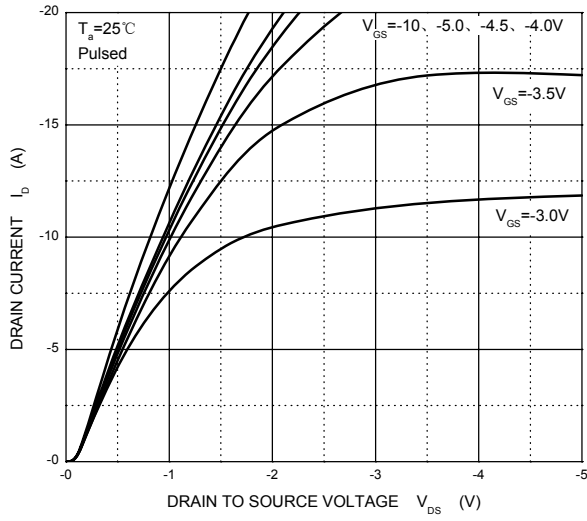
### Notes:

1. Pulse test: Pulse width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$ .
2. These parameter have no way to verify.

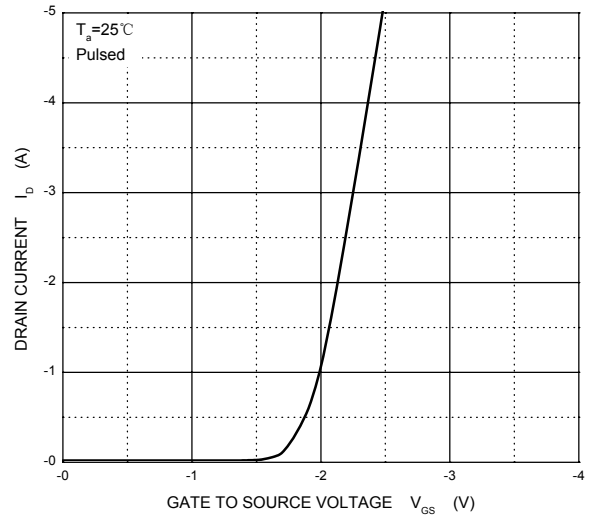


## Typical Characteristics

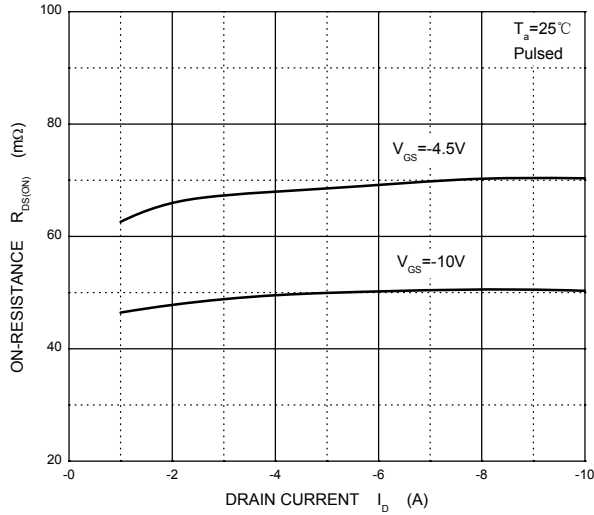
### Output Characteristics



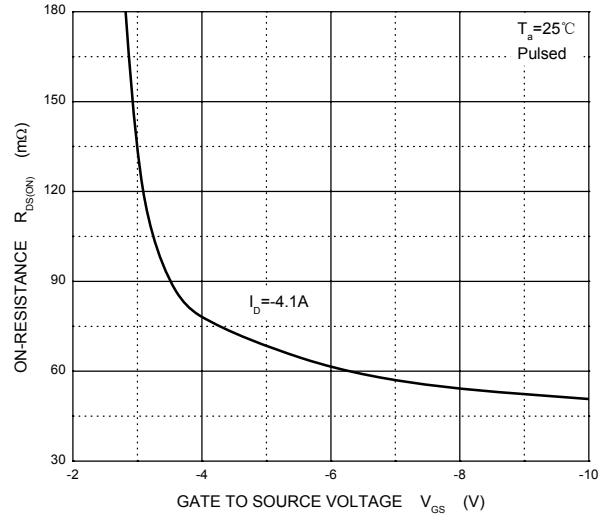
### Transfer Characteristics



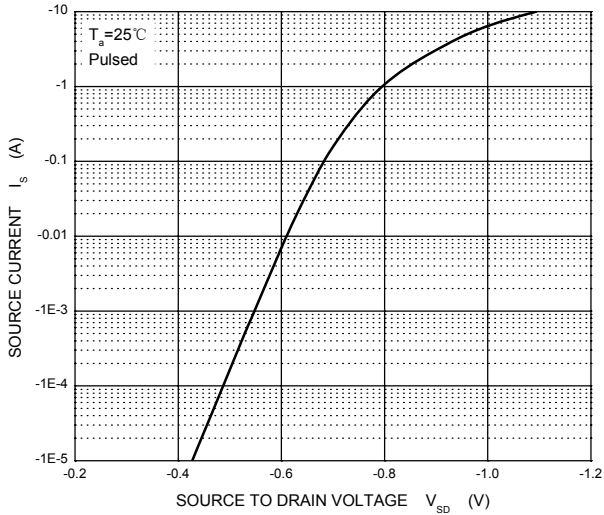
### $R_{DS(ON)}$ — $I_D$



### $R_{DS(ON)}$ — $V_{GS}$

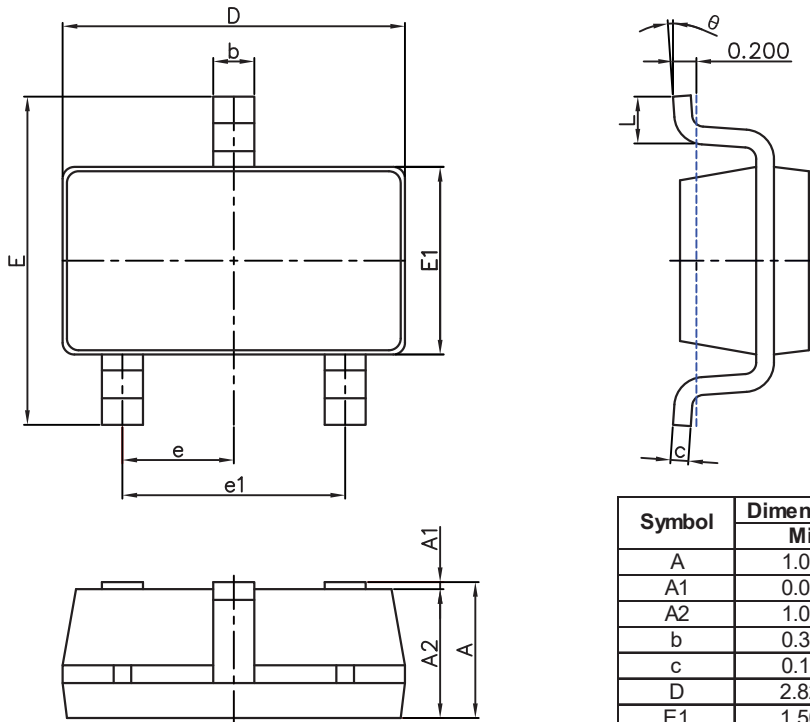


### $I_S$ — $V_{SD}$



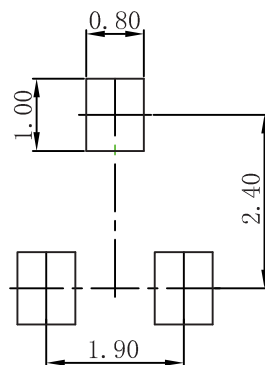


## SOT23-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
K	0°	8°	0°	8°

## SOT23-3L Suggested Pad Lay out



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05\text{mm}$ .  
 3. The pad layout is for reference purposes only.