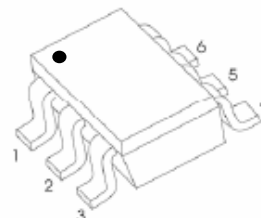


## Dual N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
20V	380mΩ @ 4.5V	0.75A
	450mΩ @ 2.5V	
	800mΩ @ 1.8V	

**SOT-363**



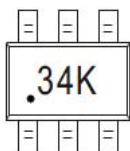
### FEATURE

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low  $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- Equivalent to Two FTK3134K

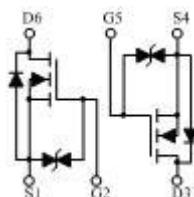
### APPLICATION

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

### MARKING



### Equivalent Circuit



### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	$V_{DS}$	20	V
Typical Gate-source voltage	$V_{GS}$	±12	V
Continuous drain current ( $t \leq 10s$ )	$I_D$	0.75	A
Power dissipation*	$P_D$	0.15	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	$^{\circ}C/W$
Junction temperature	$T_J$	150	$^{\circ}C$
Storage temperature	$T_{stg}$	-55~ +150	$^{\circ}C$

\* Repetitive rating : Pulse width limited by junction temperature.



## MOS-FET ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 20V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 20$	$\mu A$
Gate threshold voltage (note 1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35		1.1	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.65A$			380	m $\Omega$
		$V_{GS} = 2.5V, I_D = 0.55A$			450	m $\Omega$
		$V_{GS} = 1.8V, I_D = 0.45A$			800	m $\Omega$
Forward transconductance (note 1)	$g_{FS}$	$V_{DS} = 10V, I_D = 0.8A$		1.6		S
Diode forward voltage (note 1)	$V_{SD}$	$I_S = 0.15A, V_{GS} = 0V$			1.2	V
<b>DYNAMIC PARAMETERS (note 2)</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$		79	120	pF
Output Capacitance	$C_{oss}$			13	20	pF
Reverse Transfer Capacitance	$C_{rss}$			9	15	pF
<b>SWITCHING PARAMETERS (note 2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 4.5V, V_{DS} = 10V,$ $I_D = 0.5A, R_{GEN} = 10\Omega$		6.7		ns
Turn-on rise time	$t_r$			4.8		ns
Turn-off delay time	$t_{d(off)}$			17.3		ns
Turn-off fall time	$t_f$			7.4		ns
Total Gate Charge	$Q_g$	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 7A$		20		nC
Gate-Source Charge	$Q_{gs}$			1		nC
Gate-Drain Charge	$Q_{gd}$			4		nC

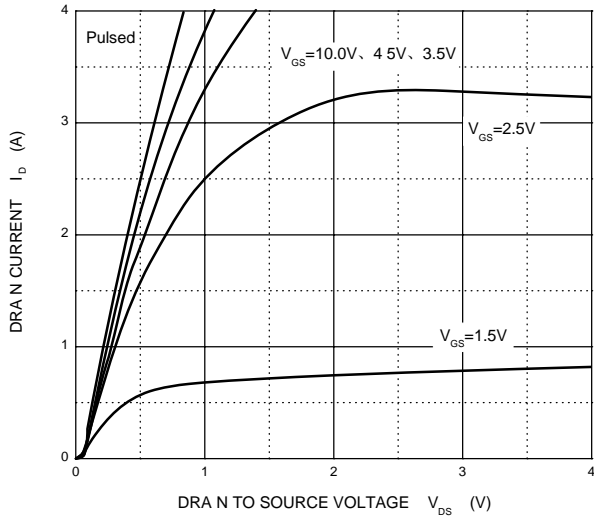
**Notes :**

1. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 0.5\%$ .
2. Guaranteed by design, not subject to production testing.

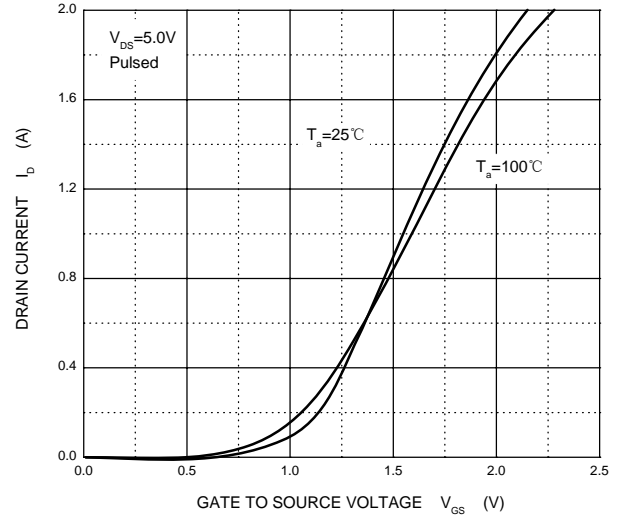


# Typical Characteristics

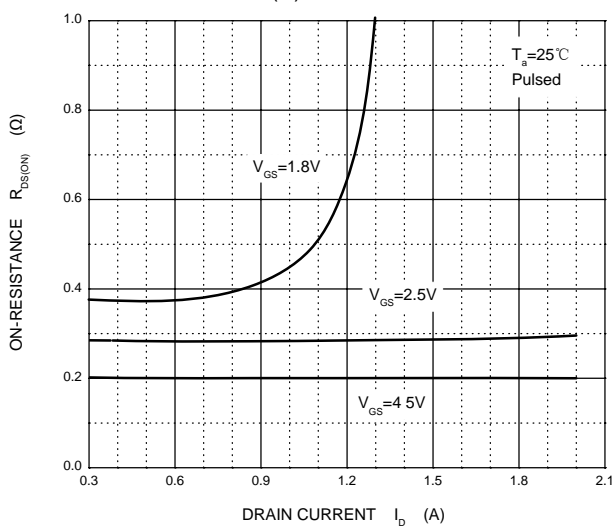
Output Characteristics



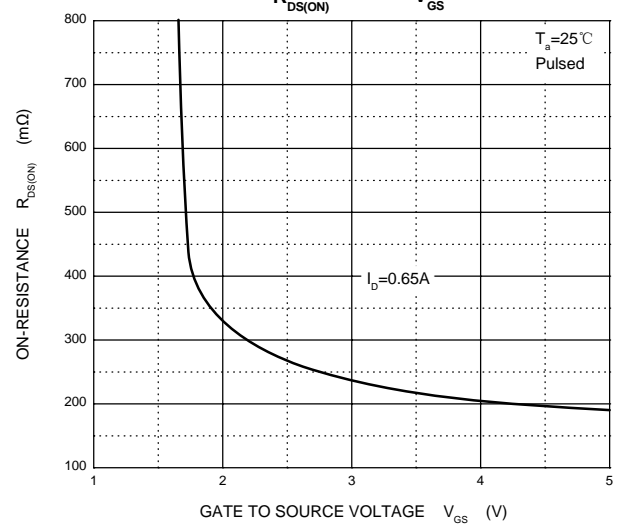
Transfer Characteristics



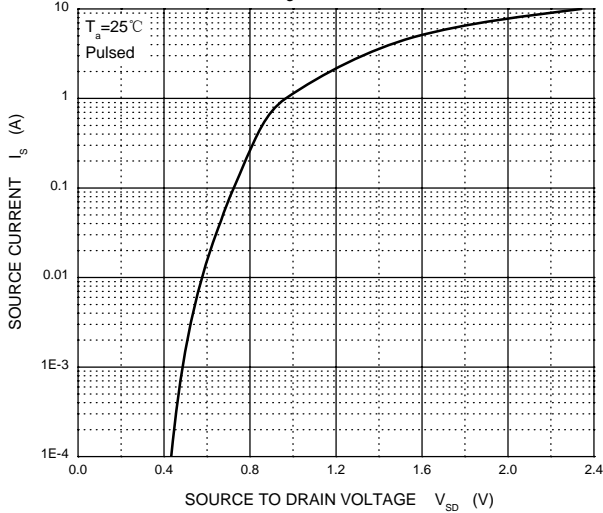
$R_{DS(ON)}$  —  $I_D$



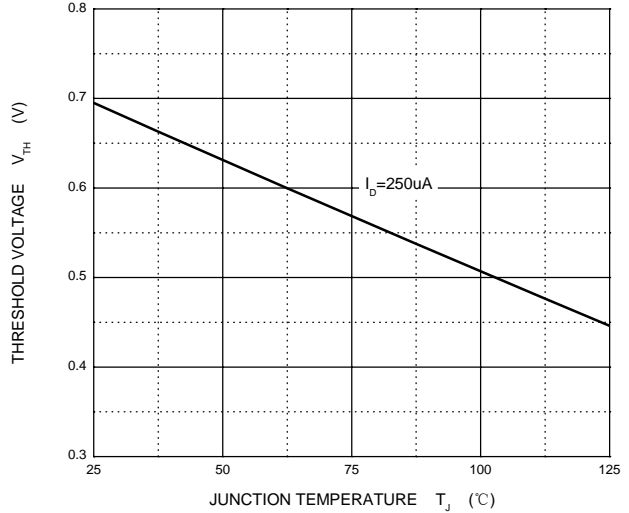
$R_{DS(ON)}$  —  $V_{GS}$



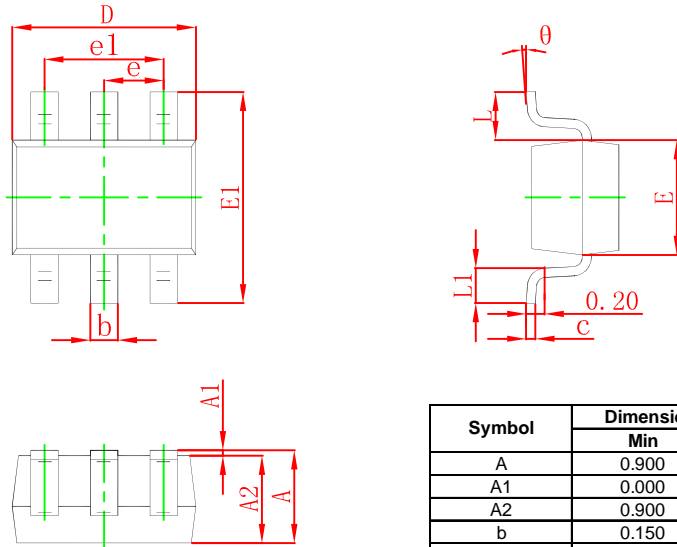
$I_S$  —  $V_{SD}$



Threshold Voltage

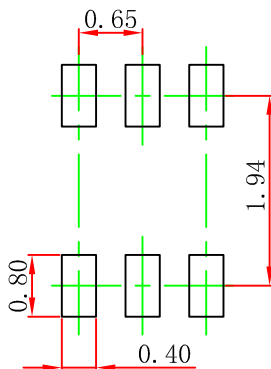


## SOT-363 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

## SOT-363 Suggested Pad Layout



**Note:**

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