



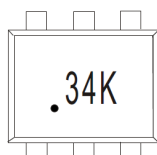
## SIX3134K

### Dual N-Channel MOSFET

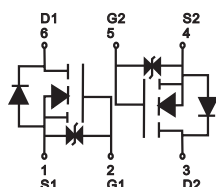
### Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- N-Channel switch with Low  $R_{DS(ON)}$
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Marking:



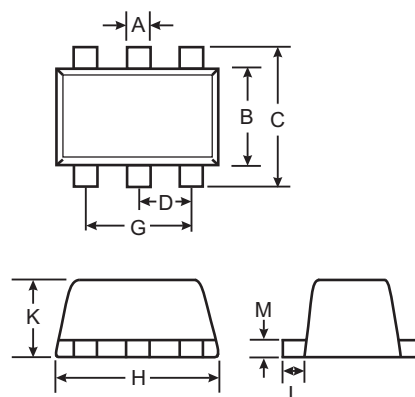
### Equivalent Circuit



### Maximum Ratings @ 250C Unless Otherwise Specified

Symbol	Rating	Rating	Unit
$V_{DS}$	Drain-Source Voltage	20	V
$V_{GS}$	Gate-Source Voltage	$\pm 12$	V
$I_D$	Continuous Drain Current	0.75	A
$P_D$	Power Dissipation (note1)	0.15	W
$R_{thJA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}\text{C/W}$
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature	-55~150	$^{\circ}\text{C}$

### SOT-563



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.006	.011	0.15	0.30	
B	.043	.049	1.10	1.25	
C	.061	.067	1.55	1.70	
D	.020		0.50		
G	.035	.043	0.90	1.10	
H	.059	.067	1.50	1.70	
K	.022	.023	0.56	0.60	
L	.004	.011	0.10	0.30	
M	.004	.007	0.10	0.18	

## ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

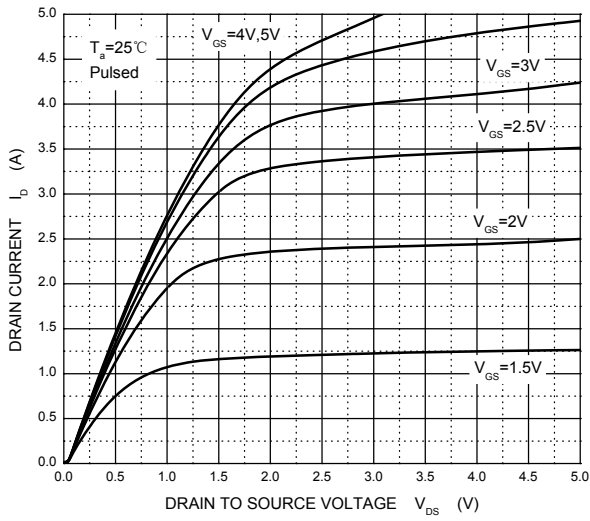
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V <sub>(BR) DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	20			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±10V, V <sub>DS</sub> = 0V			±20	μA
Gate threshold voltage (note 2)	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.35	0.54	1.1	V
Drain-source on-resistance (note 2)	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =0.65A		270	380	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =0.55A		320	450	mΩ
		V <sub>GS</sub> =1.8V, I <sub>D</sub> =0.45A		390	800	mΩ
Forward tranconductance (note 2)	g <sub>FS</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =0.8A		1.6		S
Diode forward voltage(note 2)	V <sub>SD</sub>	I <sub>S</sub> =0.15A, V <sub>GS</sub> = 0V			1.2	V
DYNAMIC PARAMETERS (note 3)						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =16V, V <sub>GS</sub> =0V, f =1MHz		79	120	pF
Output Capacitance	C <sub>oss</sub>			13	20	pF
Reverse Transfer Capacitance	C <sub>rss</sub>			9	15	pF
SWITCHING PARAMETERS(note 3)						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =10V, I <sub>D</sub> =0.5A, R <sub>GEN</sub> =10Ω		6.7		ns
Turn-on rise time	t <sub>r</sub>			4.8		ns
Turn-off delay time	t <sub>d(off)</sub>			17.3		ns
Turn-off fall time	t <sub>f</sub>			7.4		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, I <sub>D</sub> =7A		20		nC
Gate-Source Charge	Q <sub>gs</sub>			1		nC
Gate-Drain Charge	Q <sub>gd</sub>			4		nC

### Notes :

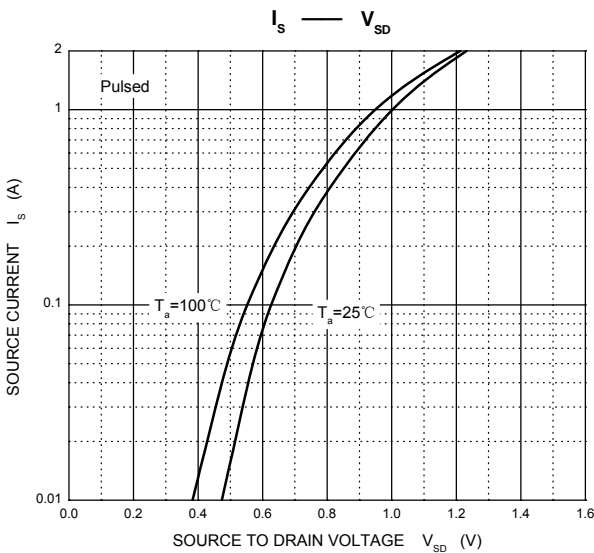
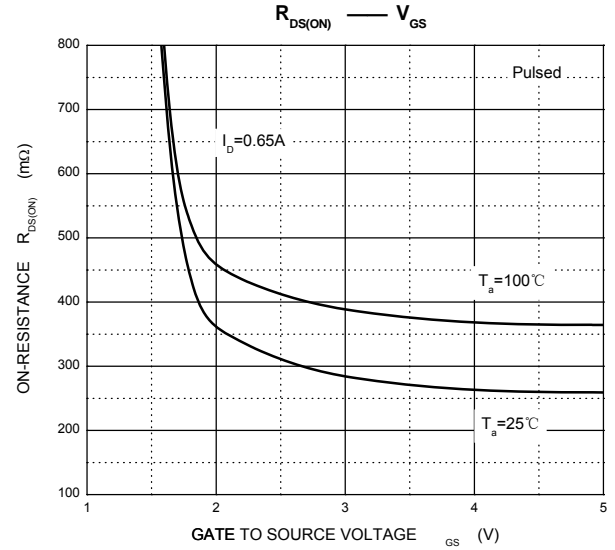
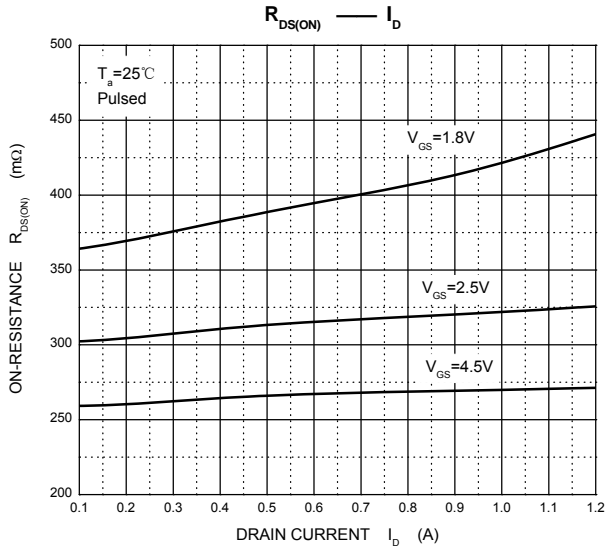
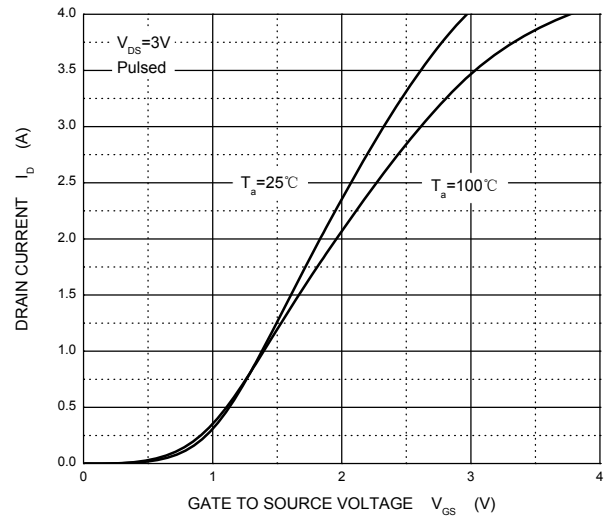
1. Repetitive rating : Pulse width limited by junction temperature.
2. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 0.5\%$ .
3. Guaranteed by design, not subject to production testing.

## Typical Characteristics

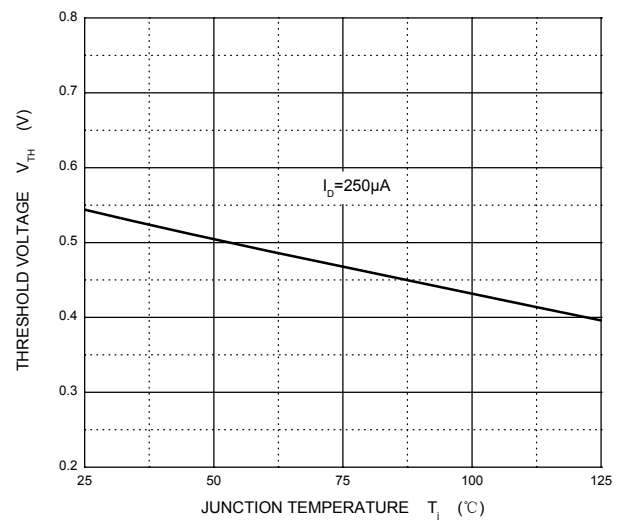
**Output Characteristics**



**Transfer Characteristics**



**Threshold Voltage**



## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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