

• Product Summary

Part #	V _{DS}	R _{DS(on)} .typ (@V _{GS} =4.5V)	R _{DS(on)} .typ (@V _{GS} =2.5V)	I _D
EFM3134KDW	20V	270mΩ	320mΩ	0.75A

• Features

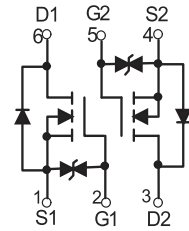
- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low R_{DS(on)}
- Operated at Low Logic Level Gate Drive

• Application

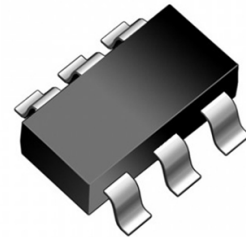
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

• Ordering Information:

Part NO.	EFM3134KDW
Marking	34K
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000



Dual N-Channel MOSFET



SOT-363



• Absolute Maximum Ratings (T_C=25°C)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±12	V
Drain Current-Continuous	I _D	0.75	A
Drain Current-Pulsed ^(Note 1)	I _{DM}	3	A
Maximum Power Dissipation	P _D	0.15	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 To 150	°C

• Thermal Characteristic

Thermal Resistance, Junction-to-Ambient ^(Note 2)	R _{θJA}	833	°C/W
---	------------------	-----	------

• Static Electrical Characteristics @ $T_J = 25^{\circ}\text{C}$ (unless otherwise stated)

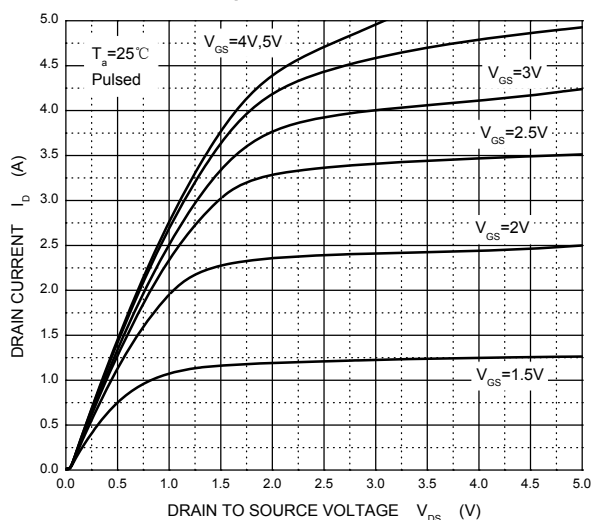
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =250uA	20	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±10V V _{DS} =0V	--	--	±20	μA
On Characteristics (Note 3)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250uA	0.35	0.54	1.0	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =4.5V I _D =0.75A	--	270	380	mΩ
		V _{GS} =2.5V I _D =0.55A	--	320	450	mΩ
Dynamic Characteristics (Note4)						
Input Capacitance	C _{Iss}	V _{DS} =16V V _{GS} =0V F=1.0MHz	--	79	--	PF
Output Capacitance	C _{Oss}		--	13	--	PF
Reverse Transfer Capacitance	C _{rSS}		--	9	--	PF
Switching Characteristics (Note 4)						
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V I _D =0.5A V _{GS} =4.5V R _G =10 Ω,	--	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 I _D =0.25A V _{GS} =4.5V	--	750	--	nC
Gate-Source Charge	Q _{gs}		--	75	--	nC
Gate-Drain Charge	Q _{gd}		--	225	--	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V _{SD}	V _{GS} =0V I _S =0.15A	--	--	1.2	V
Diode Forward Current (Note 2)	I _S		--	--	0.75	A

Notes :

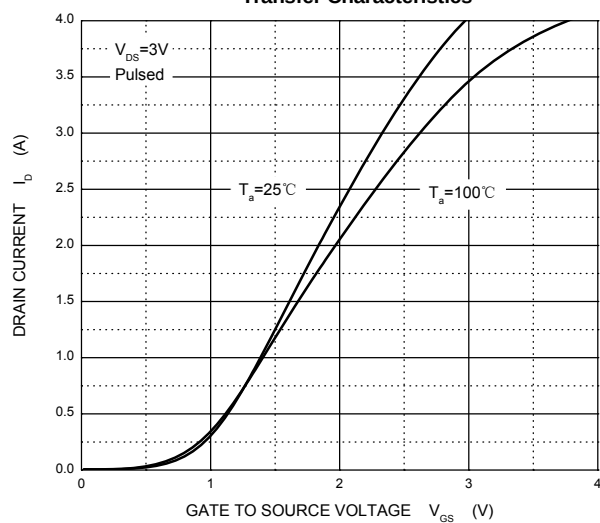
1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. Guaranteed by design, not subject to production testing.

• Typical Characteristics

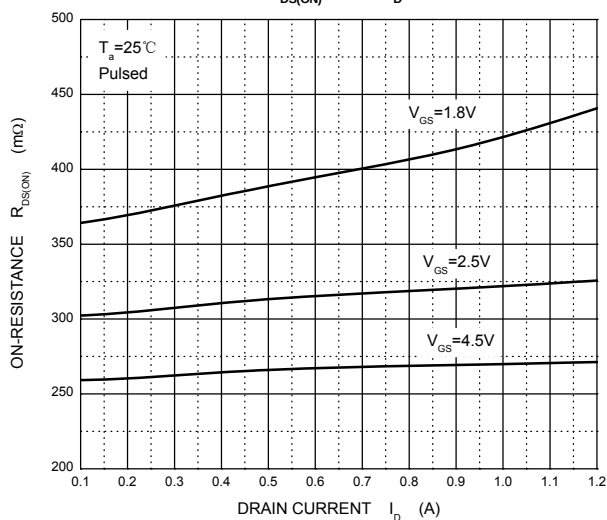
Output Characteristics



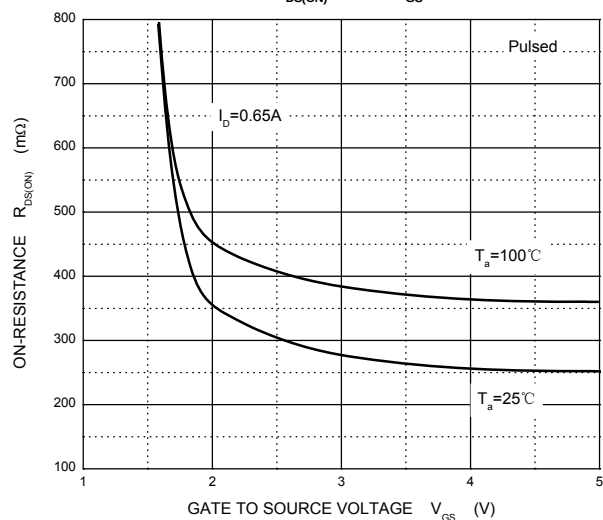
Transfer Characteristics



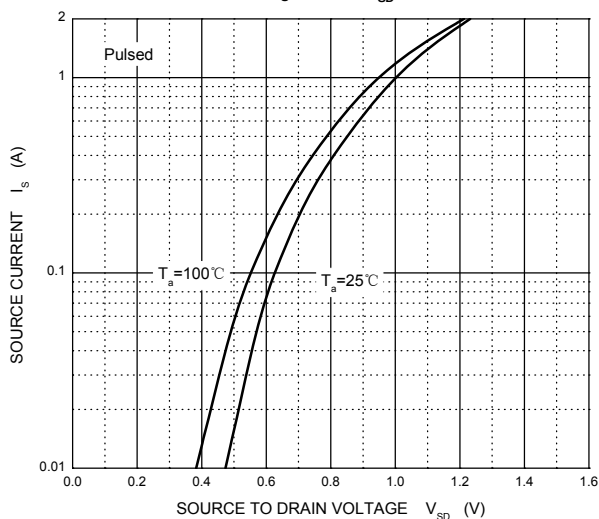
$R_{DS(ON)}$ — I_D



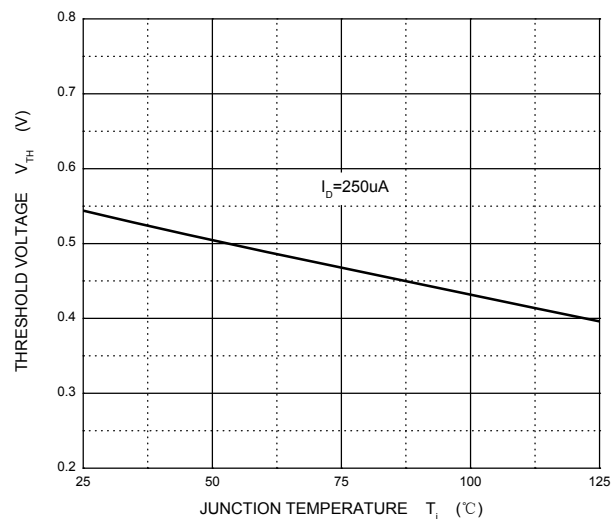
$R_{DS(ON)}$ — V_{GS}



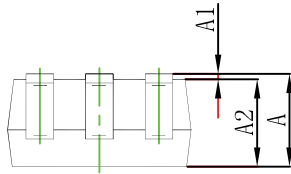
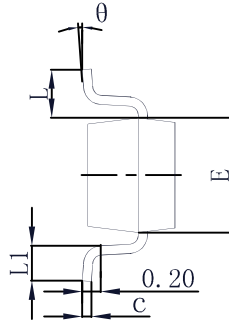
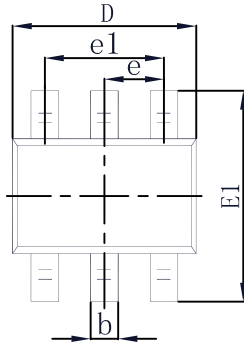
I_S — V_{SD}



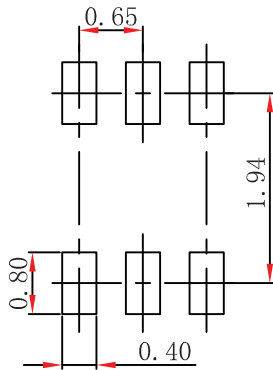
Threshold Voltage



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	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
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
θ	0°	8°	0°	8°



Note:

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