Description

These miniature surface mount MOSFETs reduce power loss conserve energy, making this device ideal for use in small power management circuitry.

General Features

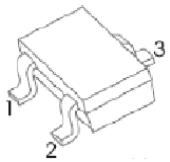
- Energy Efficient
- Low Threshold Voltage
- High-speed Switching
- Miniature Surface Mount Package Saves Board Space

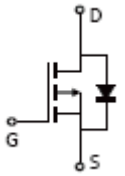
Applications

- DC–DC converters,load switching, power management in portable and battery–powered products suchas computers, printers, cellular and cordless telephones.

SOT-323

1. GATE
2. SOURCE
3. DRAIN





Equivalent Circuit

Ordering information

Product ID	Pack	Marking	Qty(PCS)
TKBSS84W	SOT-323	K84	3000

Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-Source voltage	-50	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Drain Current-Continuous	-0.13	A
I_{DM}	Pulsed Drain Current[1] @tp <10 μs	-0.52	A
P_D	Power Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	556	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃
T_L	Maximum Lead Temperature for Soldering Purposes , Duration for 5 Seconds	260	℃

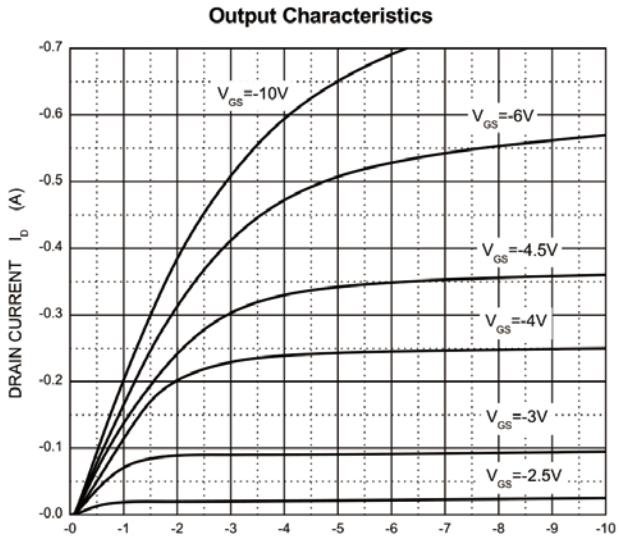
Electrical Characteristics (T_A=25℃, unless otherwise noted)

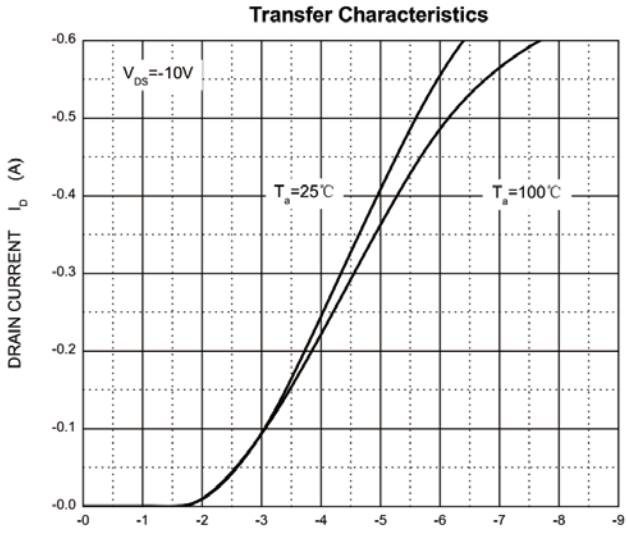
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=-250μA	-50	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-50V,V_{GS}= 0V	---	---	-15	μA
		V_{DS}=-25V,V_{GS}= 0V	---	---	-0.1	
I_{GSS}	Gate -Source leakage current	V_{GS}=±20V, V_{DS}=0V	---	---	±5	μA
$V_{GS(th)}$	GateThreshold Voltage[3]	V_{DS}=V_{GS}, I_D=-250μA	-0.9	---	-2	V
$R_{DS(on)}$	Drain-Source On-Resistance[3]	V_{GS}=-5V, I_D=-0.1A	---	---	10	Ω
		V_{GS}=-10V, I_D=-0.1A	---	---	8	
gfs	Forward Transconductance[1]	V_{DS}=-25V, I_D=-100mA	50	---	---	mS
DYNAMIC CHARACTERISTICS[4]						
C_{iss}	Input Capacitance	V_{DS}=-5V,V_{GS}=0V,f=1MHz	---	30	---	pF
C_{oss}	Output Capacitance		---	10	---	
C_{rss}	Reverse Transfer Capacitance		---	5	---	
SWITCHING CHARACTERISTICS[4]						
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=-15V, R_L=50Ω, I_D=-2.5A	---	2.5	---	ns
T_r	Rise Time		---	1	---	
$T_{d(off)}$	Turn-Off Delay Time		---	16	---	
T_f	Fall Time		---	8	---	
SOURCE–DRAIN DIODE CHARACTERISTICS						
I_S	Continuous Current		---	---	-0.13	A
I_{SM}	Pulsed Current		---	---	-0.52	
V_{SD}	Diode forward voltage[3]	I_S=-0.13A, V_{GS}= 0V	---	---	-2.2	V

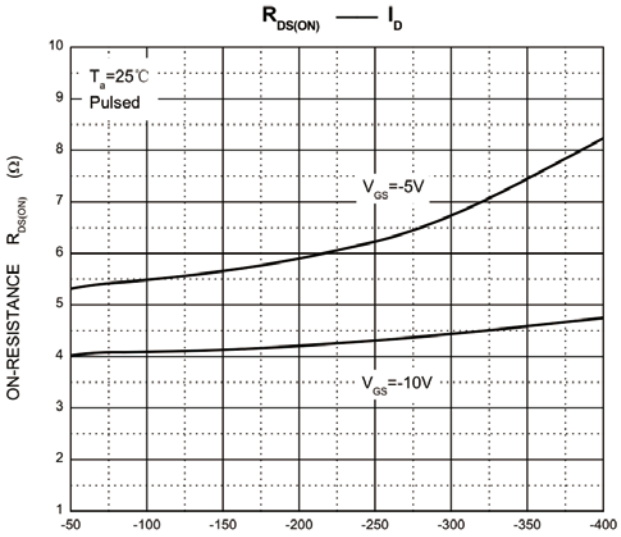
Notes :

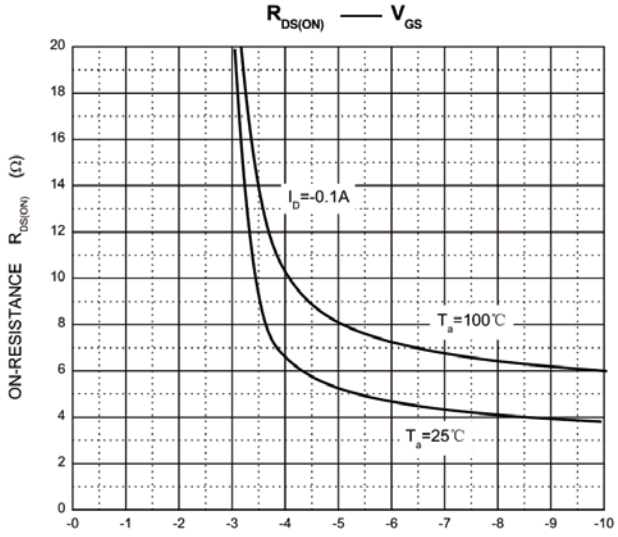
1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to producting.

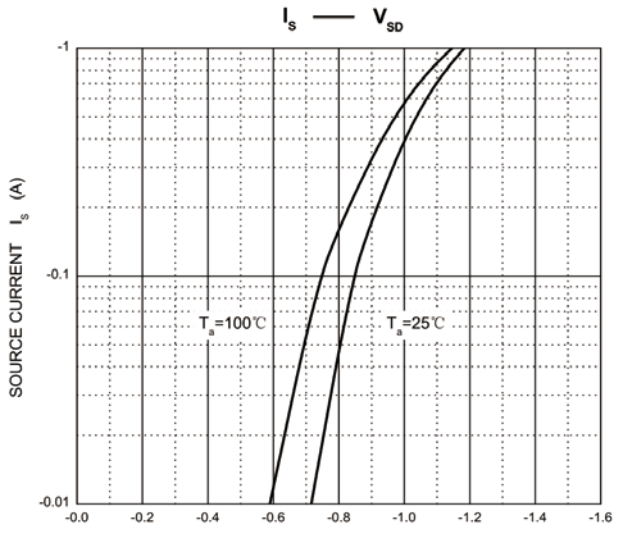
Typical Characteristics

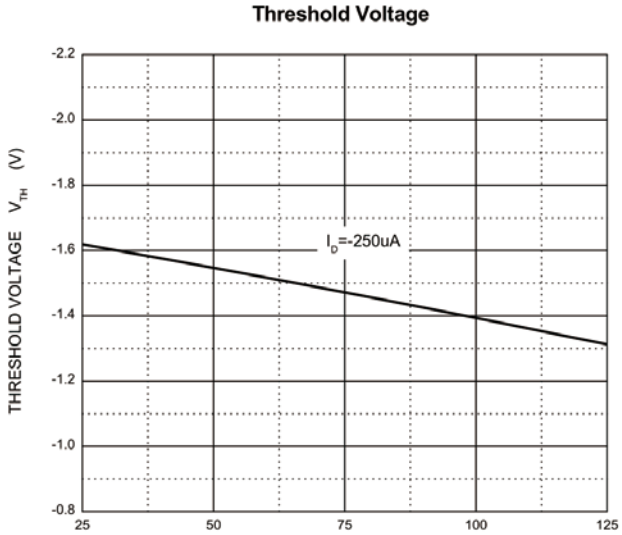




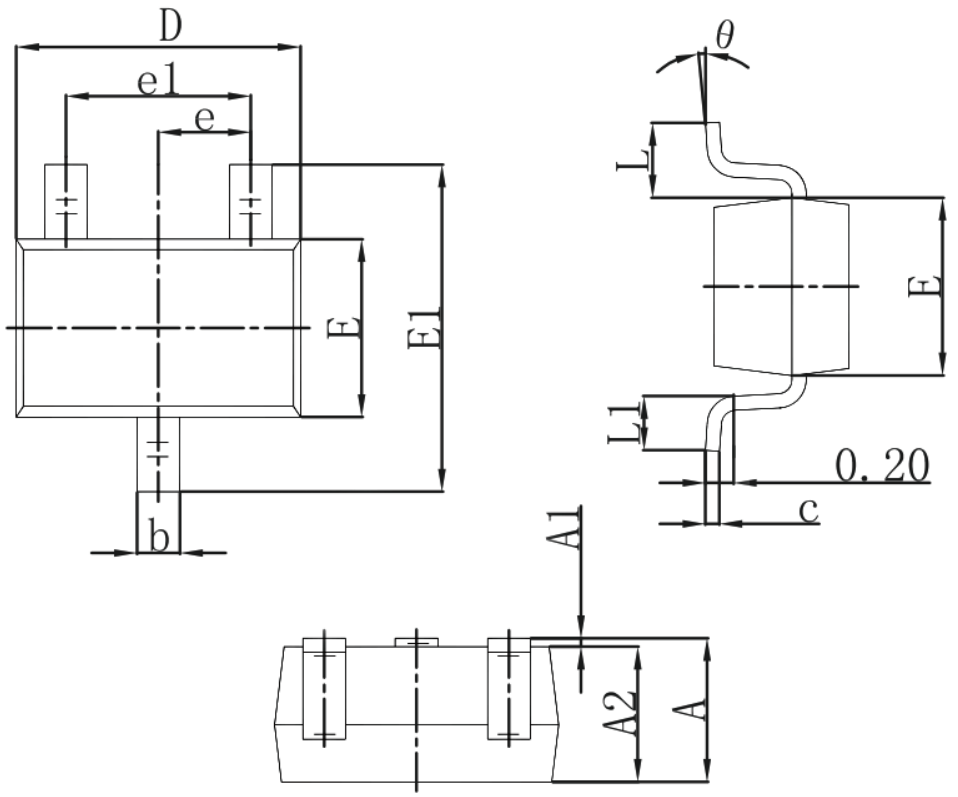








SOT-323 Package Outline Dimensions



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	0.200	0.400	0.008	0.016
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	1.350	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
θ	0°	8°	0°	8°