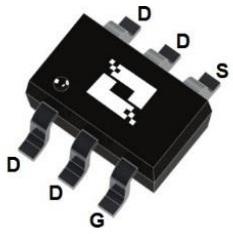
Features

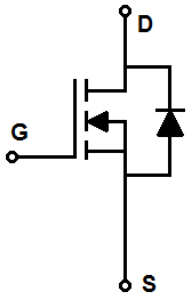
- N-Channel，*Low $R_{DS(on)}$ @V_{GS}=10V*
- *5V Logic Level Control*
- *100% UIS Tested*
- *Pb−Free, RoHS Compliant*

$V_{(BR)DSS}$	$R_{DS(ON)}$ Typ	I_D Max
100V	218mΩ @ 10V	2A
	275mΩ @ 4.5V	

Applications

- *LED Lighting Application,*
- *ON/OFF switch*
- *Networking*





Order Information

SOT363

Product	Package	Marking	Packing
DWU1430	SOT363	1430	3000PCS/Reel

Absolute Maximum Ratings

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Symbol	Parameter		Rating	Unit
Common Ratings (T_j=25°C Unless Otherwise Noted)				
V_{GS}	Gate-Source Voltage		±20	V
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage		100	V
T_J	Maximum Junction Temperature		150	℃
T_{STG}	Storage Temperature Range		-50 to 150	℃
Mounted on Large Heat Sink				
I_{DM}	Pulse Drain Current Tested①	T_C=25°C	7.0	A
I_S	Diode continuous forward current	T_C=25°C	2.0	A
I_D	Continuous Drain Current	T_C=25°C	1.6	A
		T_C=70°C	2.4	
P_D	Maximum Power Dissipation	T_C=25°C	2.8	W
P_D	Maximum Power Dissipation	T_C=70°C	1.8	mJ
$R_{\theta JA}$	Thermal Resistance-Junction-Ambient		60	°C/W

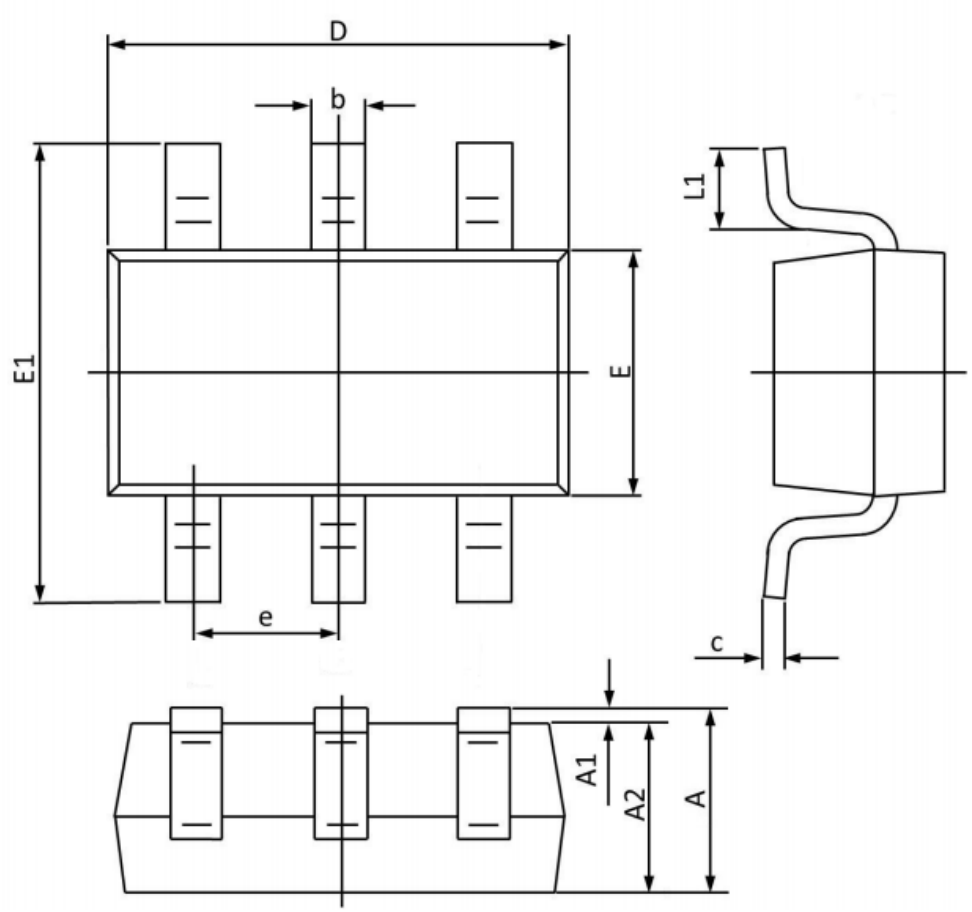
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V I_D=250μA	100	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current(T_C=25℃)	V_{DS}=100V, V_{GS}=0V	--	--	1	μA
	Zero Gate Voltage Drain Current(T_C=125℃)	V_{DS}=80V, V_{GS}=0V	--	--	100	uA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=±20V, V_{DS}=0V	--	--	±100	nA
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	0.6	1.2	1.8	V
$R_{DS(ON)}$	Drain-Source On-State Resistance③	V_{GS}=10V, I_D=2A	--	218	300	mΩ
$R_{DS(ON)}$	Drain-Source On-State Resistance③	V_{GS}=4.5V, I_D=1A	--	275	360	mΩ
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C_{iss}	Input Capacitance	V_{DS}=50V, V_{GS}=0V, f=1MHz	--	130	--	pF
C_{oss}	Output Capacitance		--	54	--	pF
C_{rss}	Reverse Transfer Capacitance		--	10	--	pF
R_g	Gate Resistance	f=1MHz		4.1		Ω
Q_g	Total Gate Charge	V_{DS}=50V I_D=2A, V_{GS}=4.5V	--	1.8	--	nC
Q_{gs}	Gate Source Charge		--	0.7	--	nC
Q_{gd}	Gate Drain Charge		--	1.0	--	nC
Switching Characteristics @ T_J = 25°C (unless otherwise stated)						
$t_{d(on)}$	Turn on Delay Time	V_{DD}=10V, I_D=1A, R_G=3.3Ω, V_{GS}=10V	--	15	--	ns
t_r	Turn on Rise Time		--	45	--	ns
$t_{d(off)}$	Turn Off Delay Time		-	11	--	ns
t_f	Turn Off Fall Time		--	13	--	ns
Source Drain Diode Characteristics @ T_J = 25°C (unless otherwise stated)						
t_{rr}	Reverse Recovery Time	I_{SD}=2A, V_{GS}=0V di/dt=100A/μs	--	25	--	nS
Q_{rr}	Reverse Recovery Charge		--	20	--	nC
V_{SD}	Forward on voltage③	I_{SD}=1A, V_{GS}=0V	--	0.87	1.2	V

Notes: ① Pulse width limited by maximum allowable junction temperature

② Limited by TJmax, starting TJ = 25°C, L = 0.3mH,RG = 25Ω, IAS = 33A, VGS =10V. Part not recommended for use above this value

③ Pulse width ≤ 300μs; duty cycle≤ 2%.

SOT363 Mechanical Data



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	1.100	0.800	0.043	0.031
A1	0.100	0.000	0.004	0.000
A2	1.000	0.800	0.039	0.031
b	0.330	0.100	0.013	0.004
c	0.250	0.100	0.010	0.004
D	2.200	1.800	0.087	0.071
E	1.350	1.150	0.053	0.045
E1	2.400	1.800	0.094	0.071
e	0.65BSC		0.026BSC	
L1	0.350	0.100	0.014	0.004

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