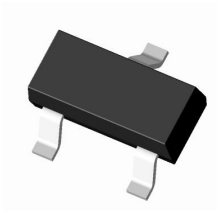
Silicon Schottky Barrier Diode

Features

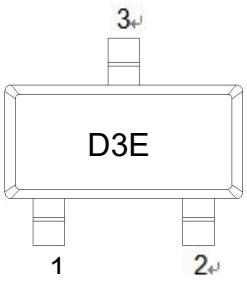
- Low leakage current
- Small Surface Mounting Type
- Ideal for Automated Placement
- Ultrafast Reverse Recovery Time
- Low Forward Voltage Drop
- High Surge Capability
- RoHS Compliant

RoHS COMPLIANT

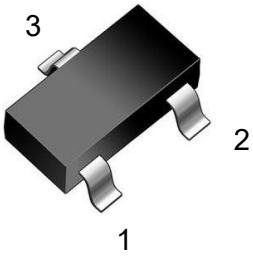


Marking: D3E

SOT-23



Pin definition



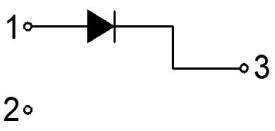
Applications

- Rail to rail ESD protection
- Overshoot and undershoot switching control
- Mobile phones and accessories
- Video game consoles connector ports
- Free Wheelin

Mechanical Characteristics

- Package: SOT-23
- Ideal for Automated Placement
- Case Material: “Green” Molding Compound
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

Epuivalent circuit



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

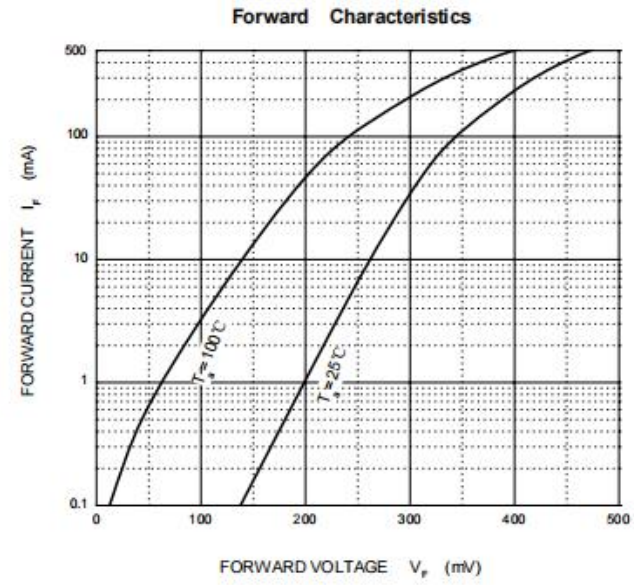
Parameter	Symbol	Limit	Unit
Reverse Voltage (Repetitive Peak)	V_{RRM}	40	V
Reverse Voltage (RMS)	$V_{R(RMS)}$	28	V
DC reverse voltage	V_R	20	V
Continuous Forward Current	I_O	500	mA
Non-RepetitivePeakForwardSurge Current@t=8.3ms	I_{FSM}	3	A
Power Dissipation	P_D	200	mW
Thermal Resistance Junction to Ambient(Typ)	$R_{\theta JA}$	500	℃/W
Junction Temperature	T_J	-55 ~ +125	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

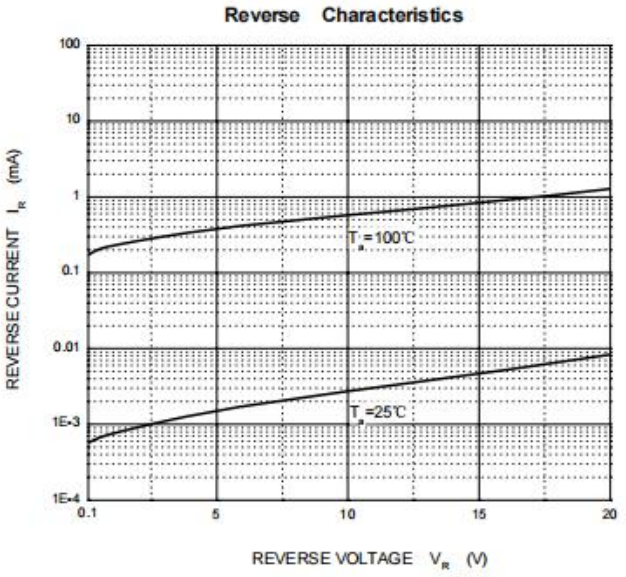
Electrical Specifications(T_A=25℃ unless otherwise noted)

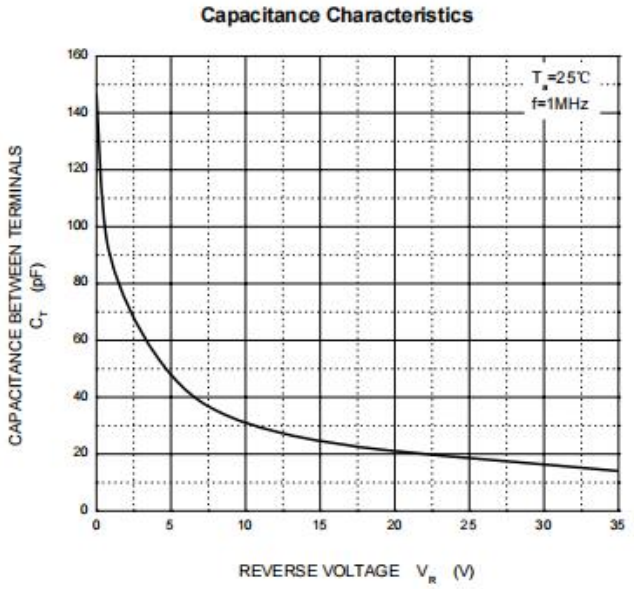
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Breakdown Voltage	V_{BR}	I_R=100uA	20			V
Reverse Current	I_R	V_R=10V			30	uA
Capacitance between terminals	C_T	VR=10V,f=1MHz		20		pF
Forward Voltage	V_F	I_F=10mA			0.3	V
		I_F=500mA			0.5	V

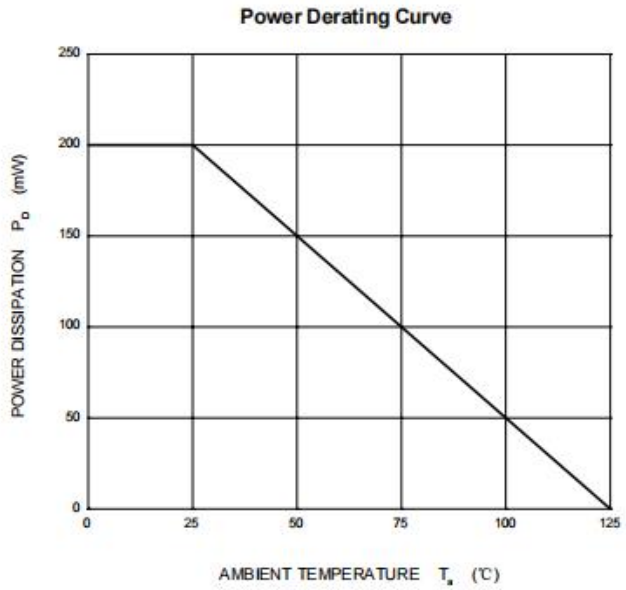
Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)



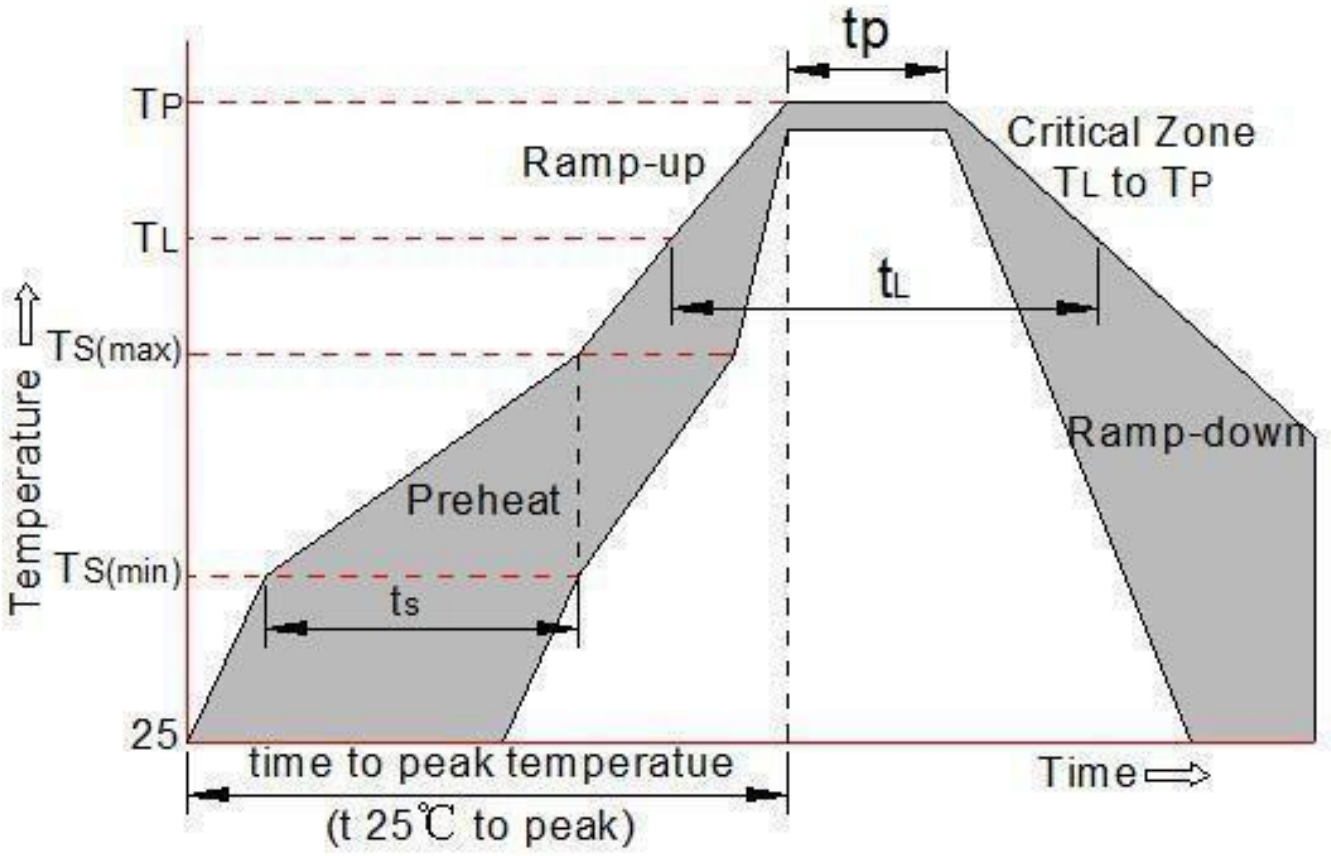






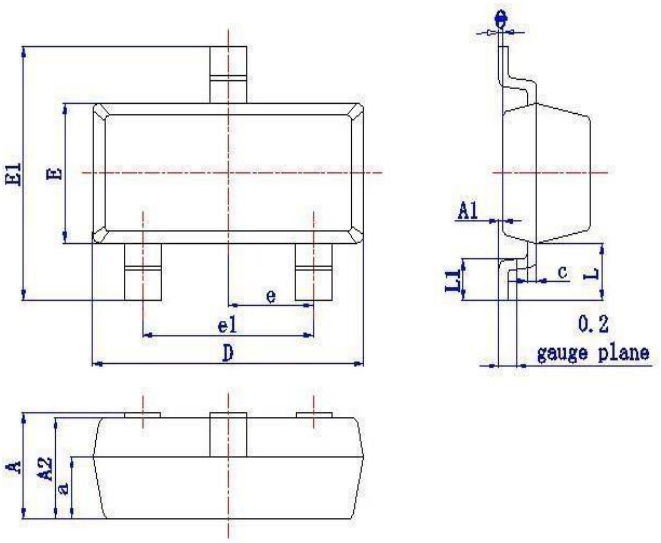
Soldering Parameters

Reflow Condition		Pb -Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 ℃
	-Temperature Max($T_{s(max)}$)	+200 ℃
	-Time (Min to Max) (ts)	60 -180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 ℃ /sec. Max
$T_{s(max)}$ to T_L - Ramp -up Rate		3 ℃ /sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217 ℃
	-Temperature(t_L)	60 -150 secs.
Peak Temp (T_p)		+260(+0/ -5) ℃
Time within 5 ℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp -down Rate		6 ℃ /sec. Max
Time 25 ℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 ℃



Package Outline Dimensions

millimeters



Symbol	Dimensional	
	Millimeters	
	min	max
A	0.9	1.15
A1	0	0.1
A2	0.9	1.05
a	(0.6)	
D	2.8	3.0
E	1.2	1.4
E1	2.25	2.55
e	(0.95)	
e1	1.8	2.0
b	0.3	0.5
c	0.08	0.15
L	(0.55)	
L1	0.3	0.5
θ	0°	8°

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.05.10	First issue

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