

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

Applications

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

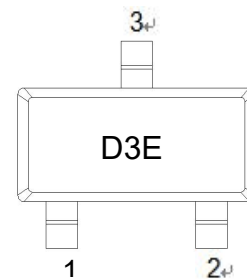
Mechanical Characteristics

- 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

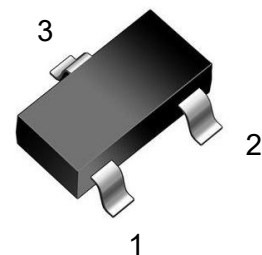


Marking: D3E

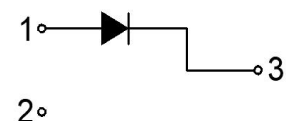
SOT-23



Pin definition



Equivalent circuit



Absolute Maximum Ratings (T_A=25°C 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-Repetitive Peak Forward Surge Current @ t=8.3ms	I _{FSM}	3	A
Power Dissipation	P _D	200	mW
Thermal Resistance Junction to Ambient(Typ)	R _{θJA}	500	°C/W
Junction Temperature	T _J	-55 ~ +125	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

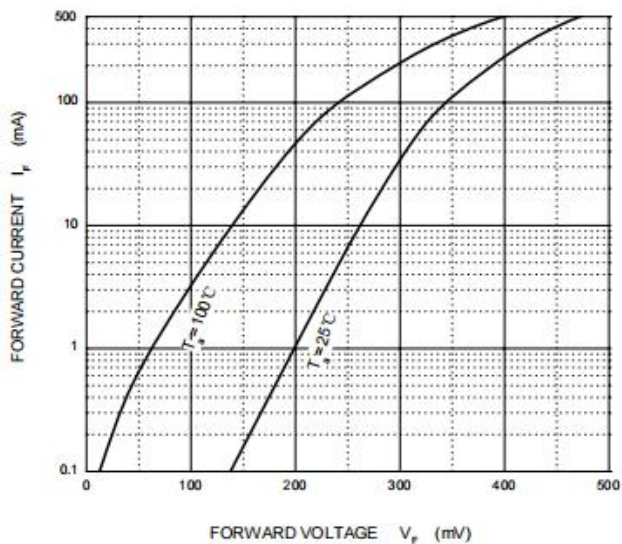
Electrical Specifications (T_A=25°C unless otherwise noted)

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	V _R =10V, f=1MHz		20		pF
Forward Voltage	V _F	I _F =10mA			0.3	V
		I _F =500mA			0.5	V

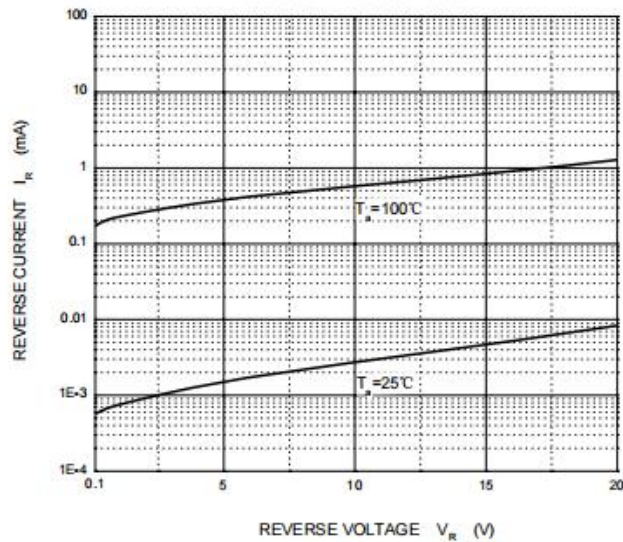
Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

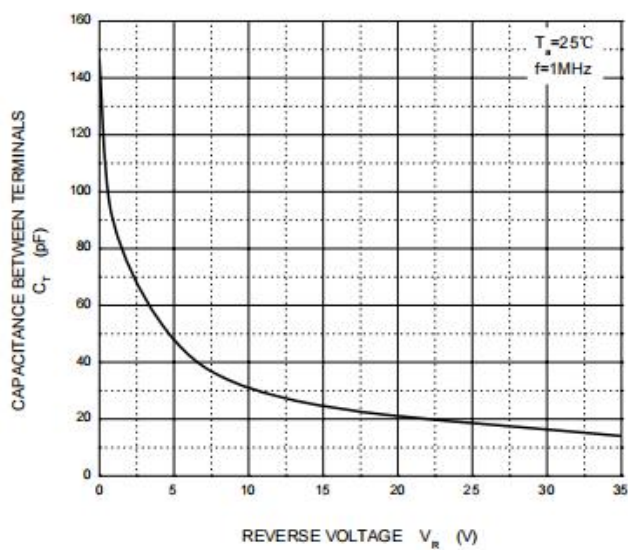
Forward Characteristics



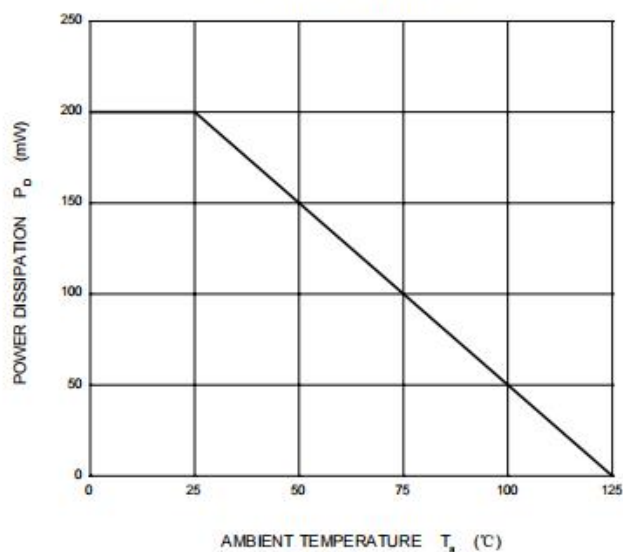
Reverse Characteristics



Capacitance Characteristics

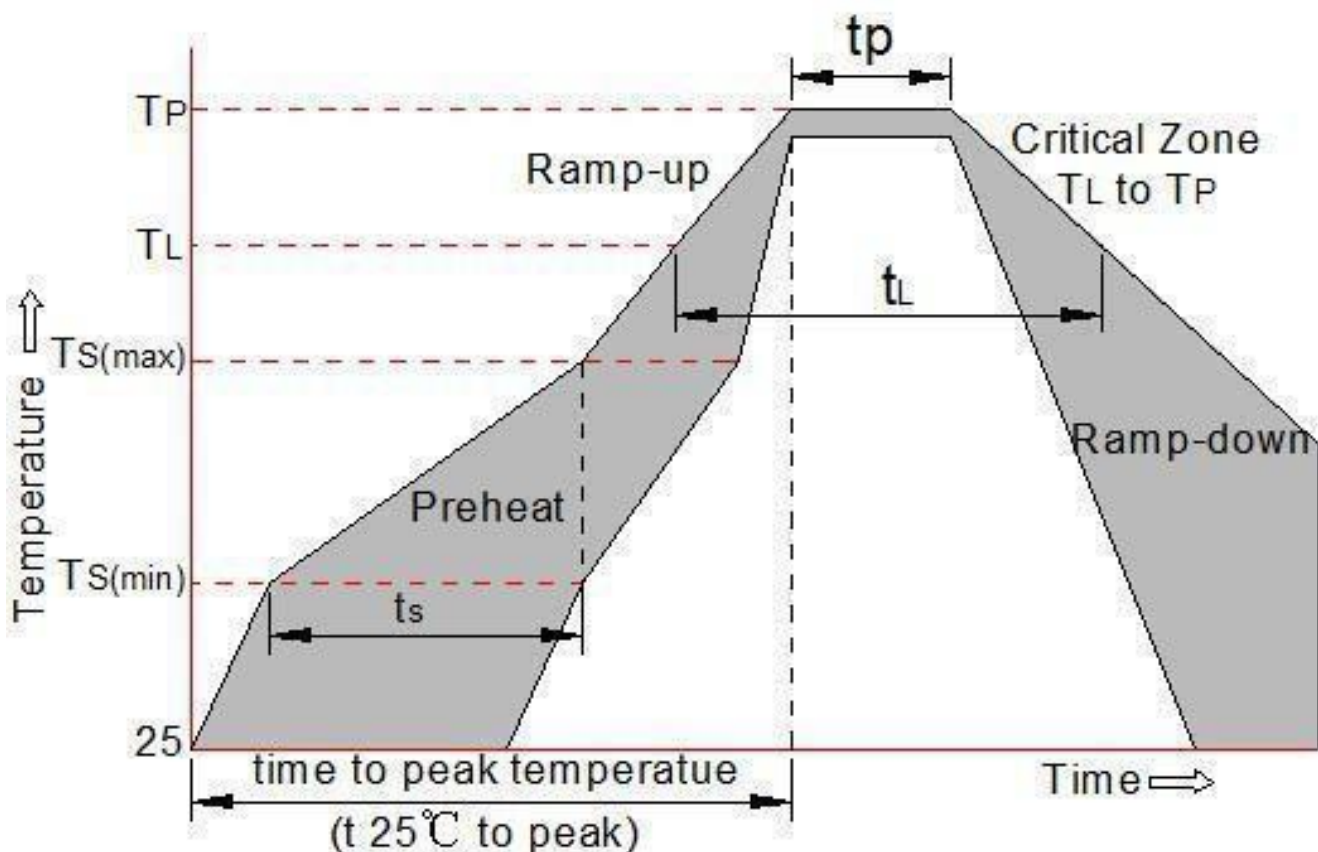


Power Derating Curve



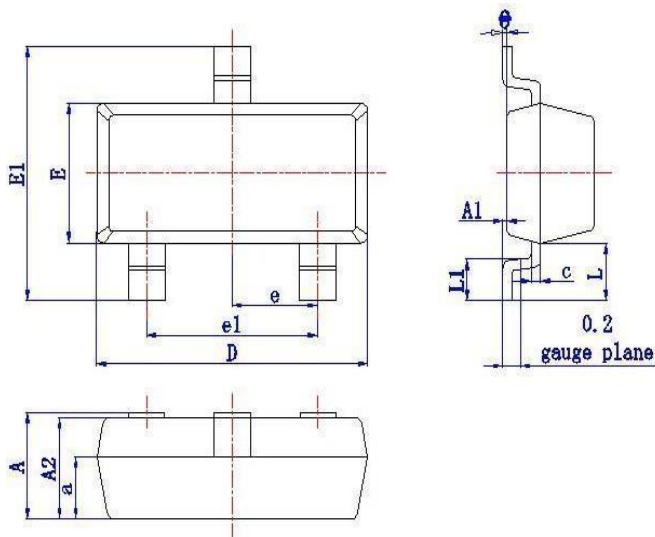
Soldering Parameters

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



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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