

## FEATURES

- | Fast Switching Speed

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- | Ultra-Small Surface Mount Package

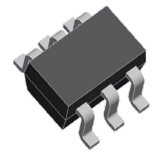
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- | For General Purpose Switching Applications

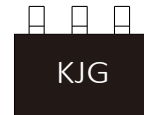
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- | High Conductance

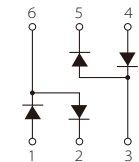
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SOT-363



Marking



Schematic Symbol

## MECHANICAL DATA

- | SOT-363 Small Outline Plastic Package

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- | Polarity: Color band denotes cathode end

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- | Mounting Position: Any

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## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Parameter	Symbol	Value	Unit	
Peak Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	75	V	
Working Peak Reverse Voltage	V <sub>RWM</sub>	75	V	
DC Blocking Voltage	V <sub>R</sub>	75	V	
Forward Continuous Current	I <sub>FM</sub>	300	mA	
Average Rectified Output Current	I <sub>O</sub>	150	mA	
Non-repetitive Peak Forward SurgeC urrent	I <sub>FSM</sub>	@ t = 1.0μs	2	A
		@ t = 1.0s	1	A
Power Dissipation	P <sub>D</sub>	200	mW	
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	625	°C/W	
Operating Junction Temperature	T <sub>J</sub>	150	°C	
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C	

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Reverse Voltage	$I_R = 100\mu\text{A}$	$V_{(BR)}$	75		V
Reverse Leakage Current	$V_R = 75\text{V}$	$I_R$		2.5	$\mu\text{A}$
	$V_R = 20\text{V}$			0.025	$\mu\text{A}$
Forward Voltage	$I_F = 1\text{mA}$	$V_F$		0.715	V
	$I_F = 10\text{mA}$			0.855	V
	$I_F = 50\text{mA}$			1.000	V
	$I_F = 150\text{mA}$			1.250	V
Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_T$		2	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}, R_L = 100\Omega$ $I_{RR} = 0.1 \times I_R$	$T_{RR}$		4	ns

## CHARACTERISTIC CURVES

Fig 1. Forward Characteristics

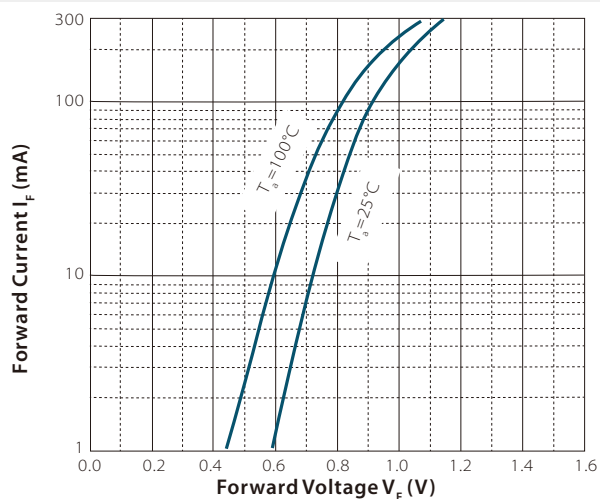
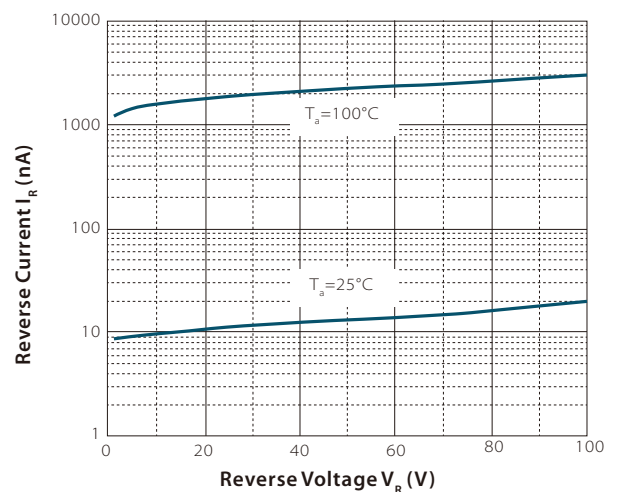
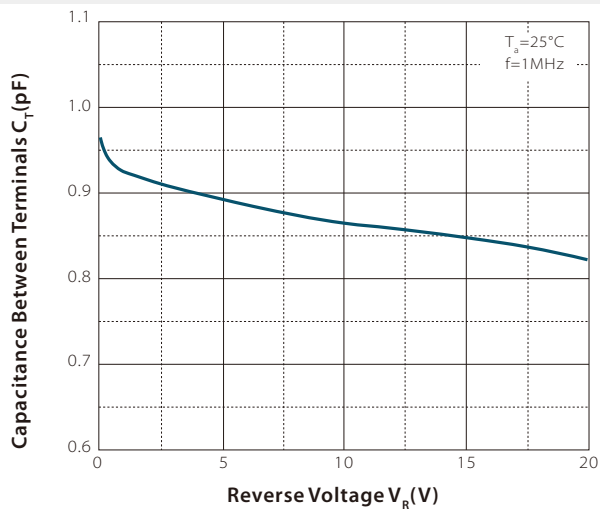
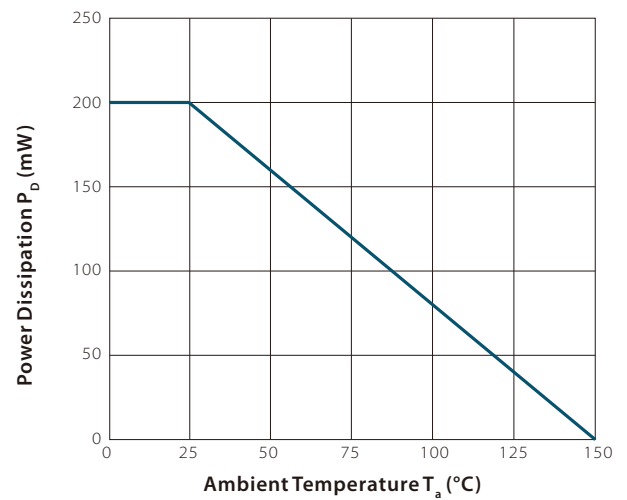


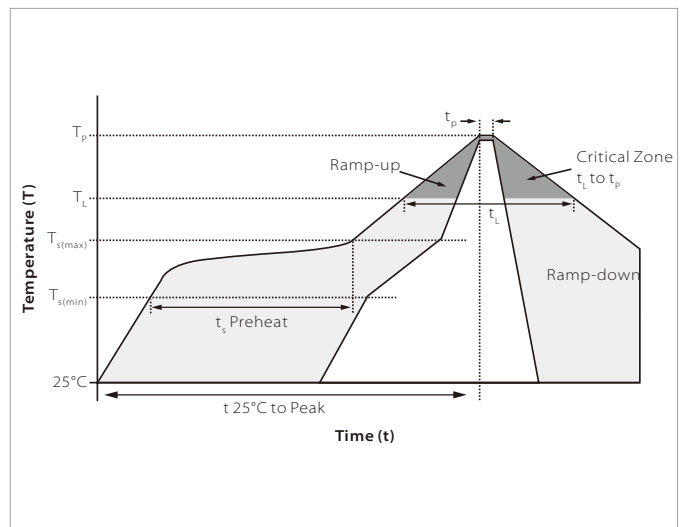
Fig 2. Reverse Characteristics



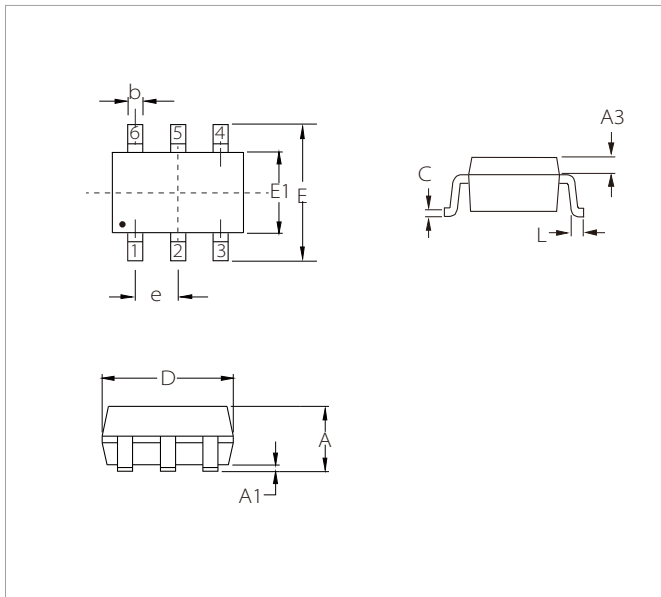
**Fig 3. Capacitance Characteristics**

**Fig 4. Power Derating Curve**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\text{min})}$ )	150 $^\circ\text{C}$
	Temperature Max ( $T_{s(\text{max})}$ )	200 $^\circ\text{C}$
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(\text{max})}$ to $T_L$ - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

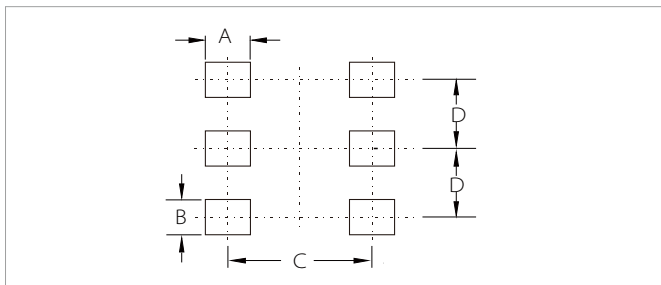


## SOT-363 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A3	0.20REF		0.008REF	
D	1.800	2.200	0.070	0.086
E1	1.150	1.350	0.045	0.053
E	2.000	2.200	0.078	0.086
e	0.65BSC		0.026BSC	
b	0.100	0.300	0.004	0.012
L	0.100	0.300	0.004	0.012
C	0.100	0.250	0.004	0.010

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.50	0.0197
B	0.40	0.0157
C	1.90	0.0748
D	0.65	0.0250

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAV99DW	SOT-363	3000PCS	7"

To find your local partner within Semiwell's website : [www.semiwell.com.cn](http://www.semiwell.com.cn)

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