



### Features

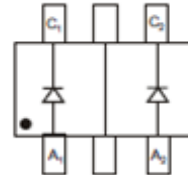
- Fast switching
- Low forward voltage drop
- Ultra-small surface mount package
- PN junction guard ring for transient and ESD protection

### Applications

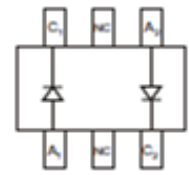
- High speed switching application

### Mechanical Data

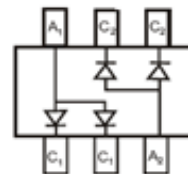
- Case: SOT-363
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



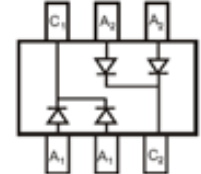
BAT54JW



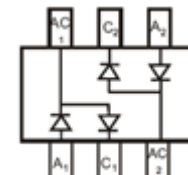
BAT54DW



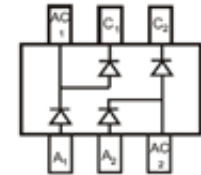
BAT54ADW



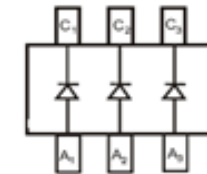
BAT54CDW



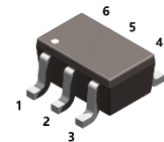
BAT54SDW



BAT54BRW



BAT54TW



SOT-363

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAT54JW	SOT-363	3000 pcs / Tape & Reel	KLC
BAT54DW	SOT-363	3000 pcs / Tape & Reel	KLD
BAT54ADW	SOT-363	3000 pcs / Tape & Reel	KL6
BAT54CDW	SOT-363	3000 pcs / Tape & Reel	KL7
BAT54SDW	SOT-363	3000 pcs / Tape & Reel	KL8
BAT54BRW	SOT-363	3000 pcs / Tape & Reel	KLB
BAT54TW	SOT-363	3000 pcs / Tape & Reel	KLA



### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$	30	V
DC Reverse Voltage	$V_R$	30	V
Forward Continuous Current	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Forward Surge Current @ $t_p < 1\text{s}$	$I_{FSM}$	600	mA

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	$P_D$	200	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating junction Temperature	$T_J$	-55 ~ +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$	30	-	-	V
Forward Voltage *2	$V_F$	$I_F = 0.1\text{mA}$	-	-	0.24	V
		$I_F = 1\text{mA}$	-	-	0.32	V
		$I_F = 10\text{mA}$	-	-	0.40	V
		$I_F = 30\text{mA}$	-	-	0.50	V
		$I_F = 100\text{mA}$	-	-	0.80	V
Maximum Peak Reverse Current *3	$I_R$	$V_R = 25\text{V}$	-	-	2	$\mu\text{A}$
Capacitance Between Terminals	$C_T$	$V_R = 1\text{V}, f = 1\text{MHz}$	-	-	10	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \cdot I_R, R_L = 100\Omega$	-	-	5	ns

Notes:

1. The data tested by surface mounted on FR-4 board with recommended pad layout
2. pulse test,  $t_p \leq 300\mu\text{s}$
3. pulse test,  $t_p \leq 5\text{ms}$



### Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

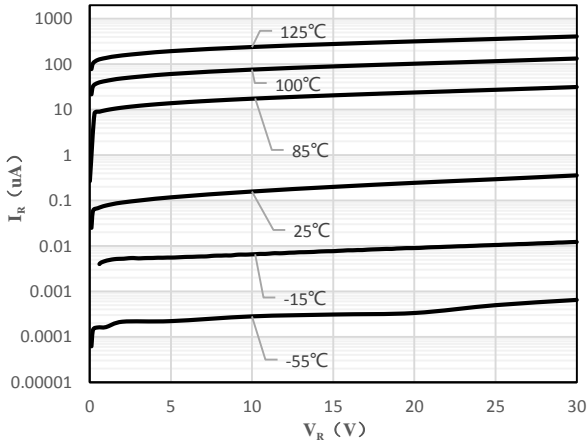


Fig 1 Typical Reverse Characteristic

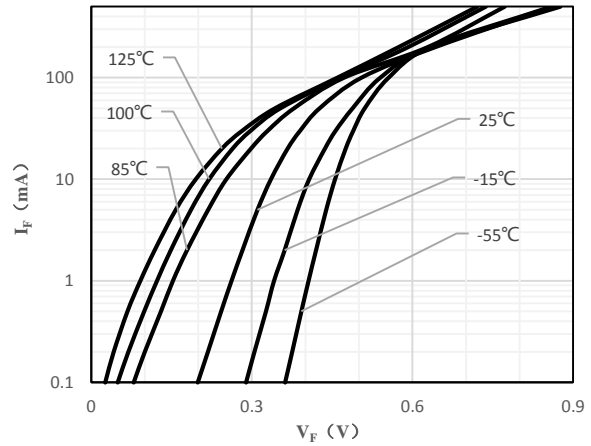


Fig 2 Typical Forward Characteristics

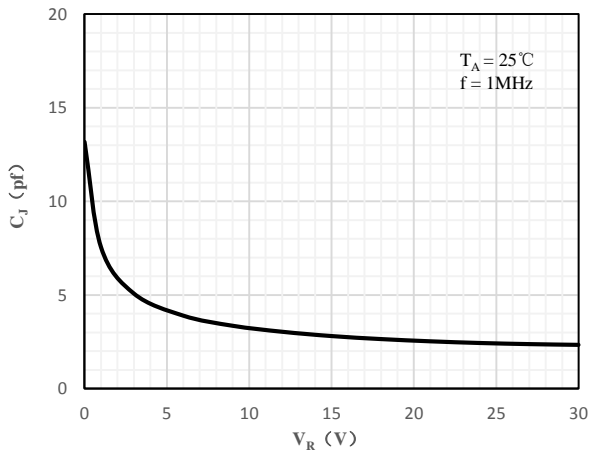


Fig 3 Capacitance vs. Reverse Voltage

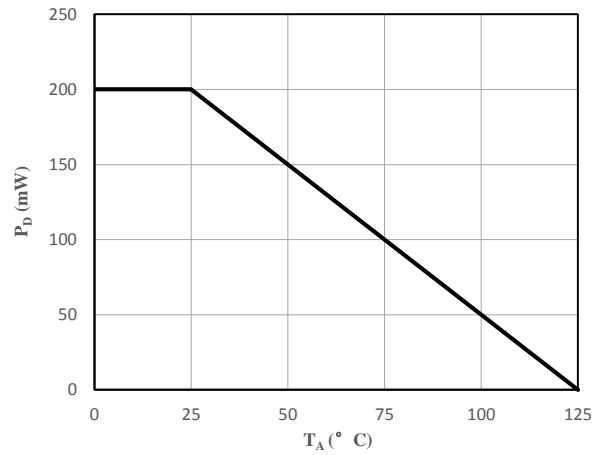
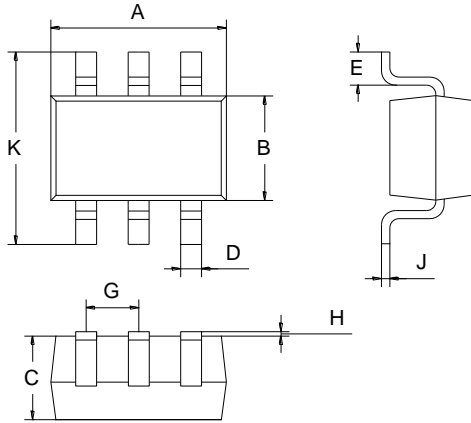


Fig 4 Power Derating Curve



### Package Outline Dimensions (Unit: mm)



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

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#### SOT-363

