

Features

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

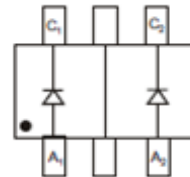
HF

Applications

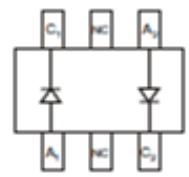
- High speed switching application

Mechanical Data

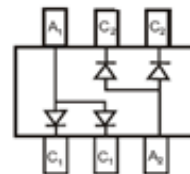
- Case: SOT-363
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



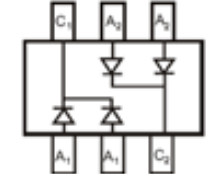
BAT54JW



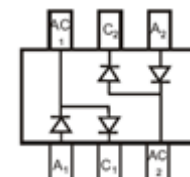
BAT54DW



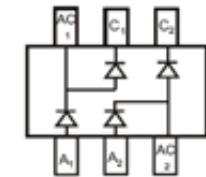
BAT54ADW



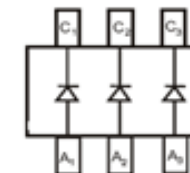
BAT54CDW



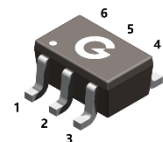
BAT54SDW



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 ($T_A = 25^\circ\text{C}$)	P_D	200	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	350	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	250	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	280	$^\circ\text{C/W}$
Operating junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
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	μA
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:

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

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

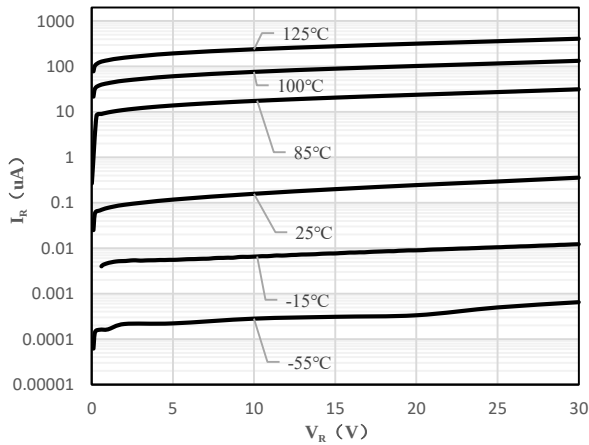


Fig 1 Typical Reverse Characteristic

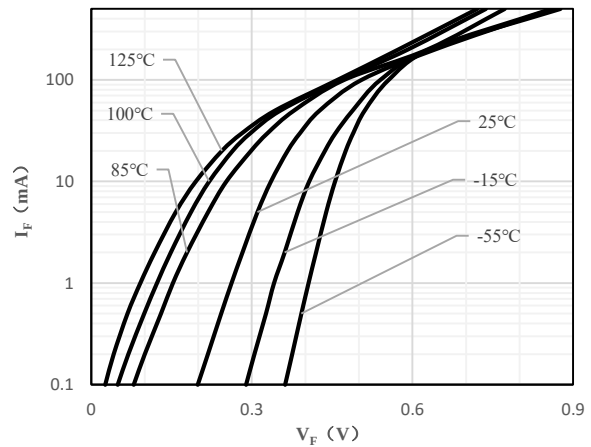


Fig 2 Typical Forward Characteristics

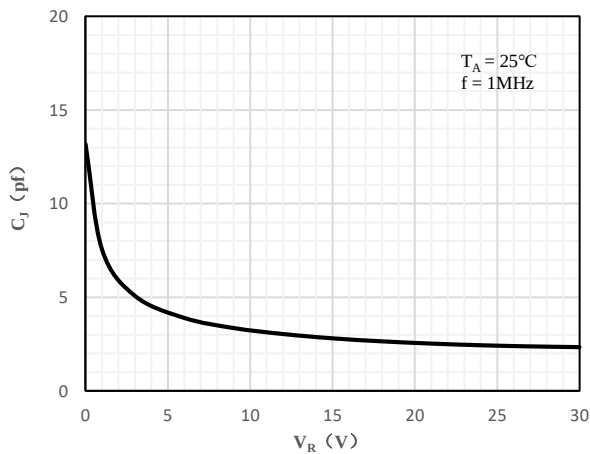


Fig 3 Capacitance vs. Reverse Voltage

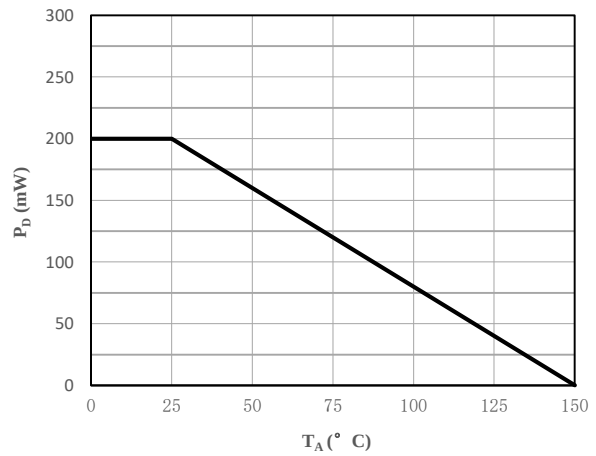
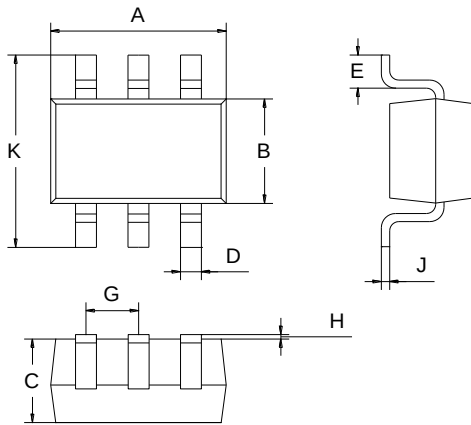


Fig 4 Power Derating Curve

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

Package Outline Dimensions (Unit: mm)

SOT-363

