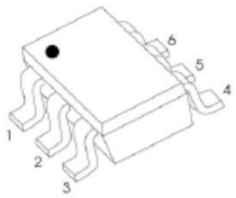
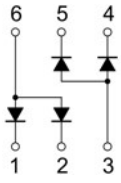
Features

SOT-363

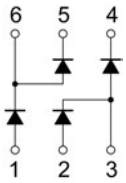


Low Forward Voltage Drop
Fast Switching
Small Surface Mount Package
PN Junction Guard Ring for Transient and ESD Protection
Available in Lead Free Version

Equivalent Circuit :



BAT54ADW



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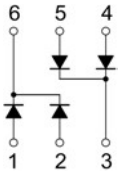

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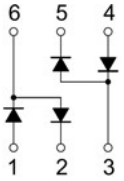
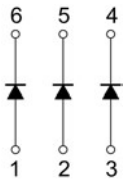


BAT54SDW



BAT54TW

Marking:

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings @ T_A = 25 C unless otherwise specified

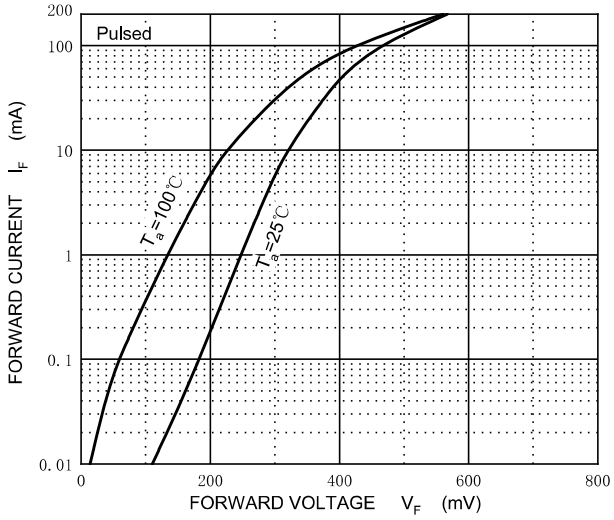
Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	30	V
V_{RWM}	Peak Working Reverse Voltage		
V_R	DC Blocking Voltage		
I_O	Forward Continuous Current	200	mA
I_{FRM}	Repetitive Peak Forward Current	300	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current @t=8.3ms	600	
P_D	Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	500	℃/W
T_j	Operating Junction Temperature Range	-40 ~ +125	℃
T_{stg}	Storage Temperature Range	-55 ~ +150	℃

Electrical Characteristics (T_a=25℃unless otherwise noted)

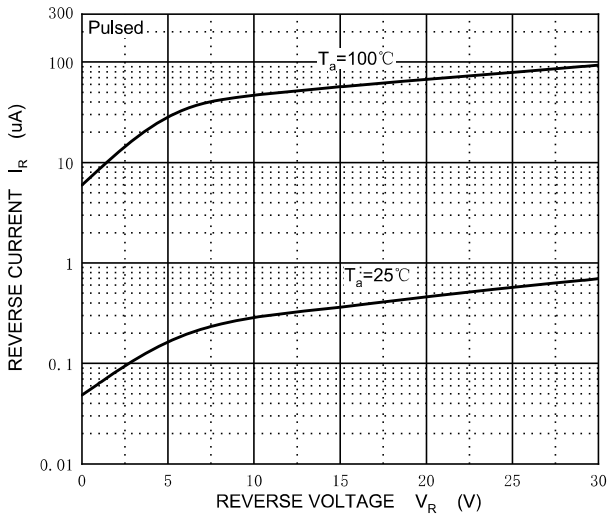
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=100μA	30			V
Reverse current	I_R	V_R=25V			2	μA
Forward voltage	V_F	I_F=1mA			320	mV
		I_F=10mA			400	
		I_F=30mA			500	
		I_F=100mA			1000	
Total capacitance	C_{tot}	V_R=1V,f=1MHz			10	pF
Reverse recovery time	t_{rr}	I_F= I_R=10mA, I_{rr}=0.1×I_R, R_L=100Ω			5	ns

RATING AND CHARACTERISTIC CURVES

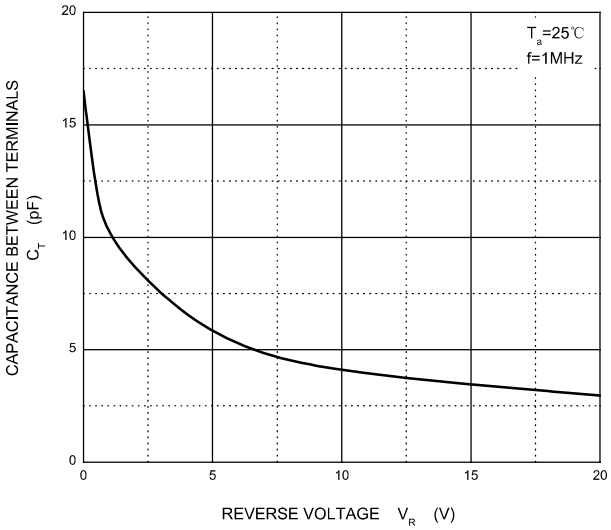
Forward Characteristics



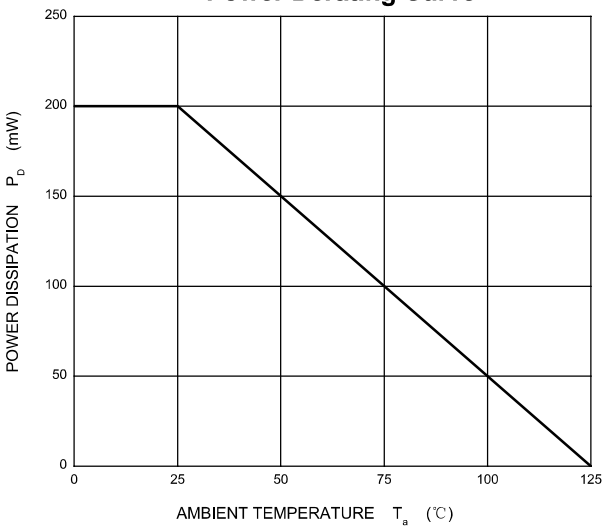
Reverse Characteristics



Capacitance Characteristics



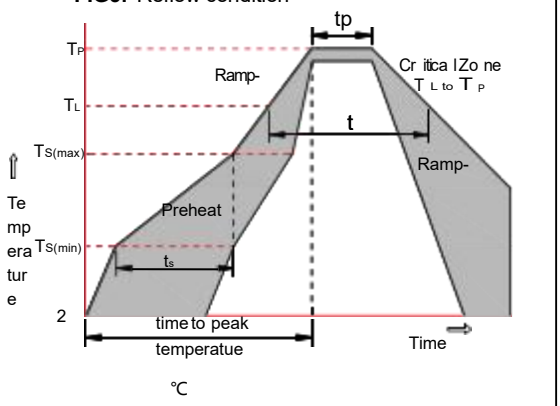
Power Derating Curve



Soldering parameters

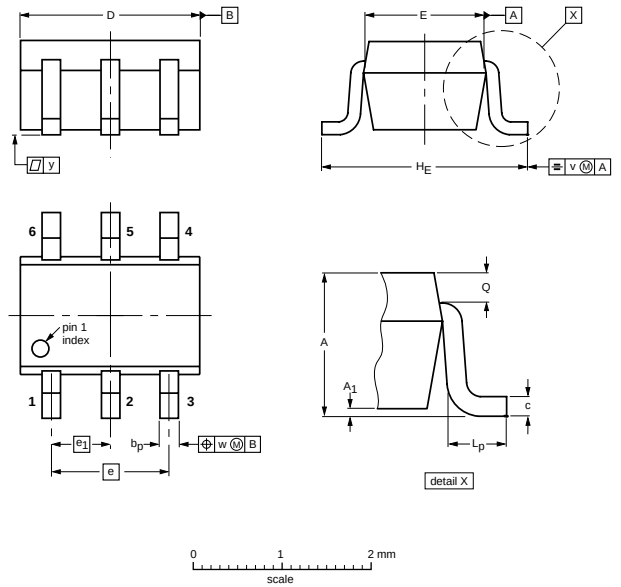
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid 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℃

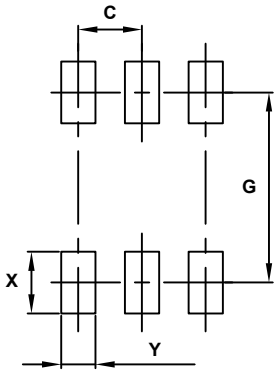
FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

SOT-363





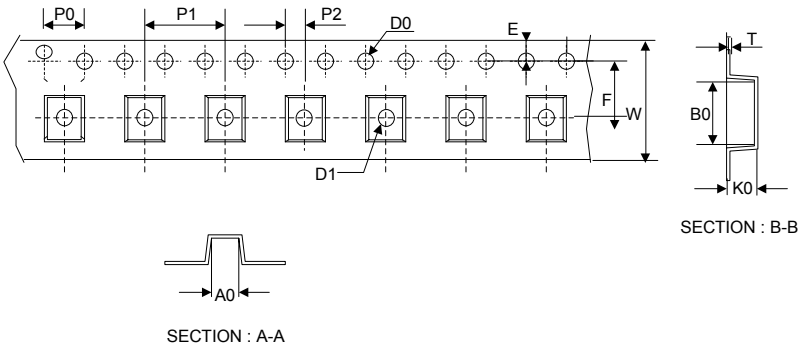
Dimensions	Value (in mm)
C	0.65
G	1.90
X	0.85
Y	0.40

DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

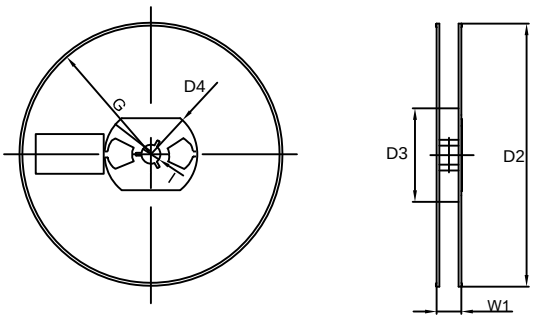
Tape & rell specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.00±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	3.00±0.20
B0	3.00±0.20
K0	1.30±0.20
T	0.20±0.20

7” Reel



D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0
Quantity: 3000PCS	