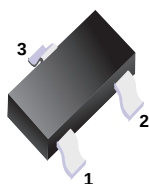


FEATURES

Extremely Fast Switching Speed
Low forward voltage

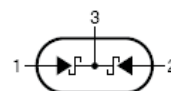
VOLTAGE RANGE
30 Volts
CURRENT
0.2 Ampere

KL7



Simplified outline(SOT-323)

Equivalent Circuit



BAT54CW

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

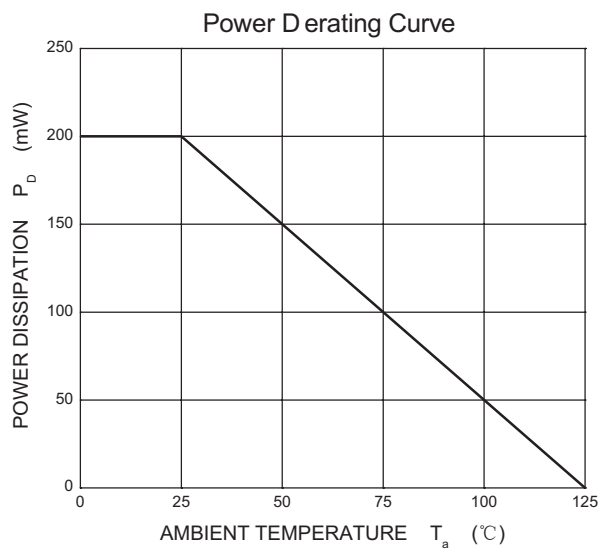
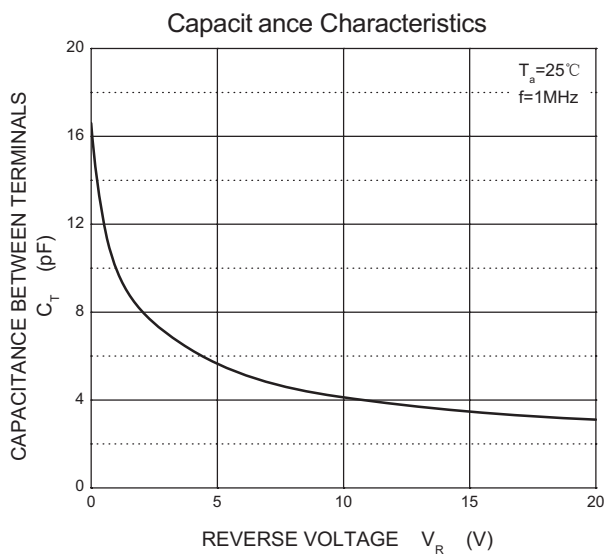
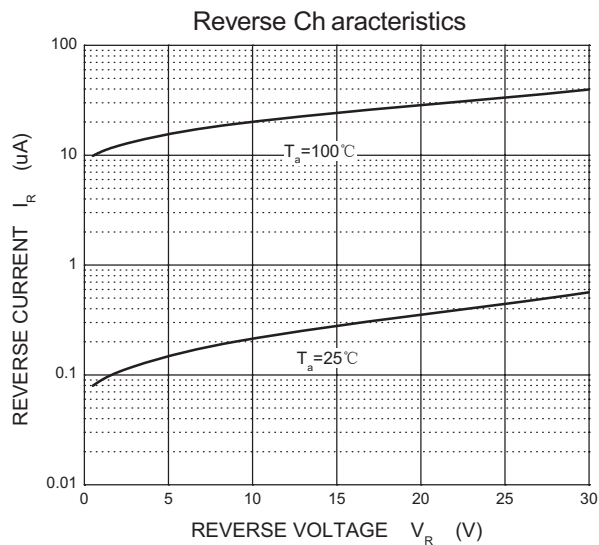
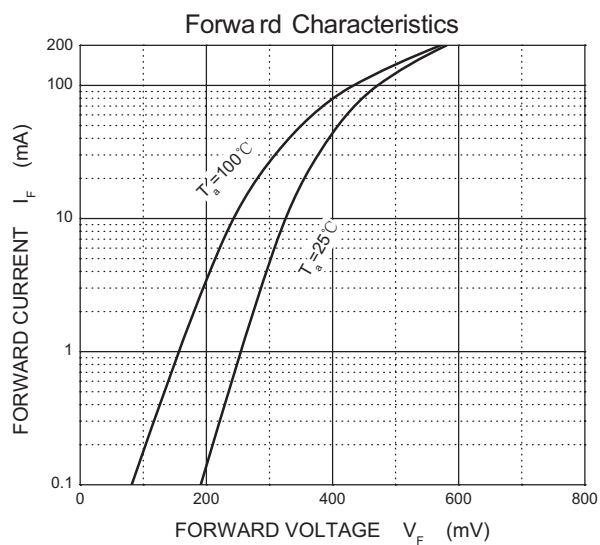
Maximum ratings (T =25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
Forward Continuous Current	I _{FM}	200	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	600	
Repetitive Peak Forward Current @ t≤1s,δ≤0.5	I _{FRM}	300	
Power Dissipation	P _D	200	mW
Thermal Resistance Junction to Ambient	R _{θJA}	500	°C/W
Junction Temperature	T _J	125	°C
Storage Temperature range	T _{stg}	-55 to 150	

Electrical Characteristics

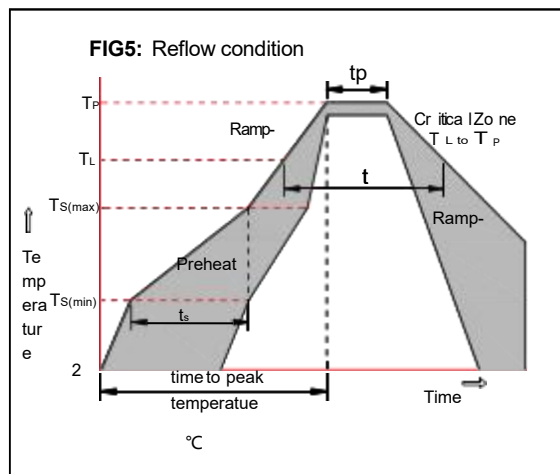
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Voltage	$V_{(BR)}$	$I_R = 100 \mu A$	30			V
Forward Voltage	V_{F1}	$I_F = 0.1 mA$			0.24	
	V_{F2}	$I_F = 1 mA$			0.32	
	V_{F3}	$I_F = 10 mA$			0.40	
	V_{F4}	$I_F = 30 mA$			0.50	
	V_{F5}	$I_F = 100 mA$			1	
Leakage Current	I_R	$V_R = 25 V$			2	μA
Diode Capacitance	C_D	$V_R = 0 V, f = 1 MHz$			10	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10 mA, I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$			5	ns

RATING AND CHARACTERISTIC CURVES



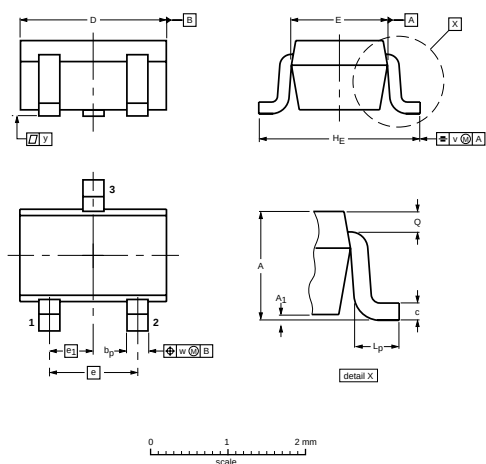
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	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



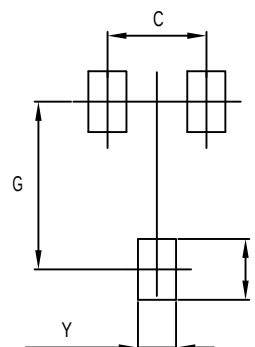
Package Dimensions & Suggested Pad Layout

SOT-323



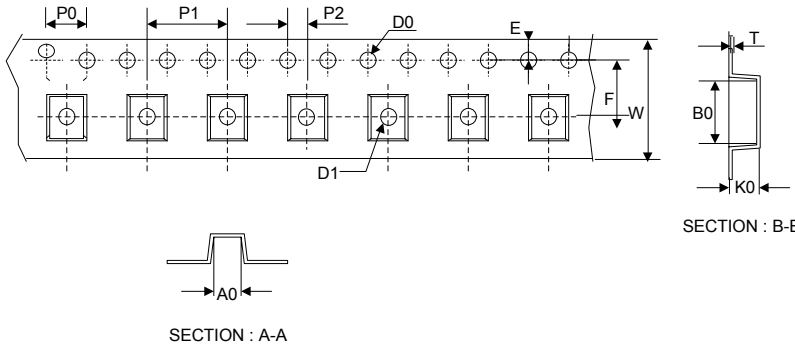
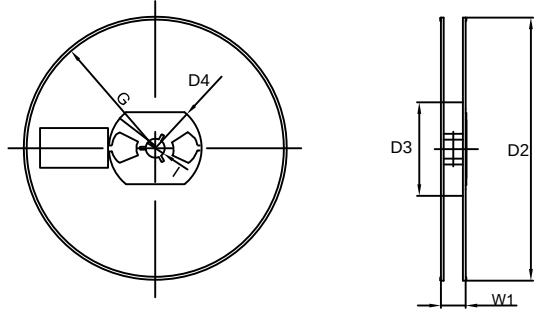
DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2



Dimensions	Value (in mm)
C	1.30
G	2.00
X	0.90
Y	0.65

Tape & reel specification

Tape		Symbol	Dimension (mm)
 SECTION : A-A SECTION : B-B		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	2.50±0.20
		B0	2.60±0.20
		K0	1.40±0.20
		T	0.20±0.20
		D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
7" Reel		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	