

## 200mA, 30V Schottky Barrier Diode

### FEATURES

- Fast switching speed
- Low forward voltage drop
- Surface mount device type
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC

### APPLICATIONS

- Voltage clamping
- Reverse polarity protection
- High speed switching

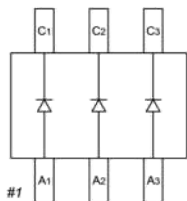
### MECHANICAL DATA

- Case: SOT-363
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight:  $6.5 \pm 0.6$  mg (approximately)

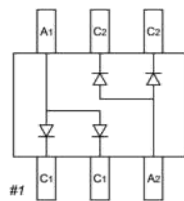
KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	200	mA
$V_{RRM}$	30	V
$I_{FSM}$	600	mA
$V_F$ at $I_F=100mA$	1	V
$T_{J\ MAX}$	150	°C
Package	SOT-363	



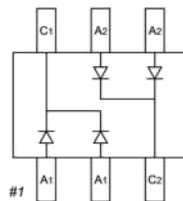
### PIN CONFIGURATION



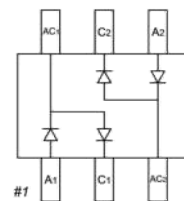
BAT54T-G



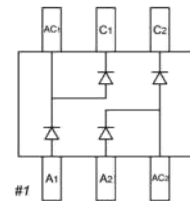
BAT54AD-G



BAT54CD-G



BAT54SD-G



BAT54BR-G

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	BAT54 T-G	BAT54 AD-G	BAT54 CD-G	BAT54 SD-G	BAT54 BR-G	UNIT	
Marking code on the device		KLA	KL6	KL7	KL8	KLB		
Power dissipation	$P_D$	200						mW
Repetitive peak reverse voltage	$V_{RRM}$	30						V
Repetitive peak forward current	$I_{FRM}$	300						mA
Forward current	$I_F$	200						mA
Non-Repetitive peak forward surge current @ $t < 1.0s$	$I_{FSM}$	600						mA
Junction temperature range	$T_J$	-65 to +150						°C
Storage temperature range	$T_{STG}$	-65 to +150						°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP.</b>	<b>UNIT</b>
Junction-to-ambient thermal resistance	$R_{\theta JA}$	625	$^{\circ}C/W$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^{\circ}C$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>MIN.</b>	<b>MAX.</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 0.1mA, T_J = 25^{\circ}C$	$V_F$	-	0.24	V
	$I_F = 1mA, T_J = 25^{\circ}C$			0.32	
	$I_F = 10mA, T_J = 25^{\circ}C$			0.40	
	$I_F = 30mA, T_J = 25^{\circ}C$			0.50	
	$I_F = 100mA, T_J = 25^{\circ}C$			1.00	
Reverse voltage	$I_R = 100 \mu A, T_J = 25^{\circ}C$	$V_R$	30	-	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$V_R = 25 V, T_J = 25^{\circ}C$	$I_R$	-	2	$\mu A$
Total capacitance	1 MHz, $V_R = 1V$	$C_T$	-	10	pF
Reverse recovery time	$I_F = I_R = 10mA, R_L = 100\Omega, I_{RR} = 1mA$	$t_{rr}$	-	5	ns

**Notes:**

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

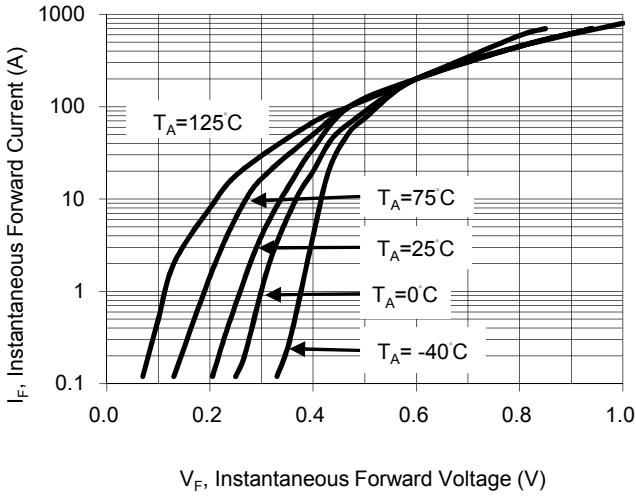
<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>
BAT54T-G RFG	SOT-363	3K / 7" Reel
BAT54AD-G RFG	SOT-363	3K / 7" Reel
BAT5CD-G RFG	SOT-363	3K / 7" Reel
BAT54SD-G RFG	SOT-363	3K / 7" Reel
BAT54BR-G RFG	SOT-363	3K / 7" Reel
BAT54T-G RF	SOT-363	3K / 7" Reel
BAT54AD-G RF	SOT-363	3K / 7" Reel
BAT5CD-G RF	SOT-363	3K / 7" Reel
BAT54SD-G RF	SOT-363	3K / 7" Reel
BAT54BR-G RF	SOT-363	3K / 7" Reel

**Note:** "G" means green compound (halogen free)

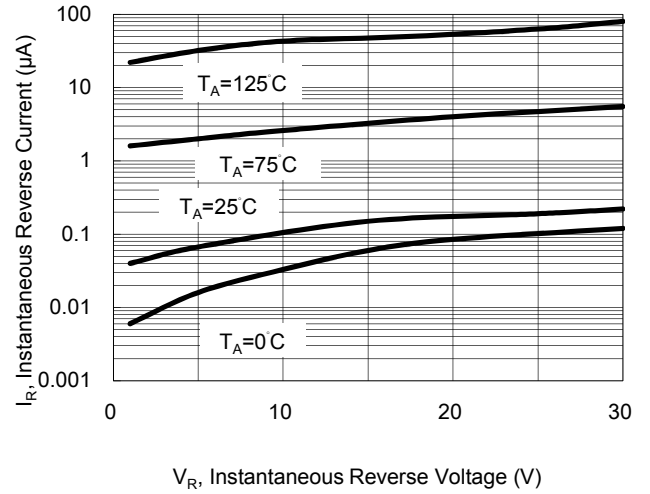
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

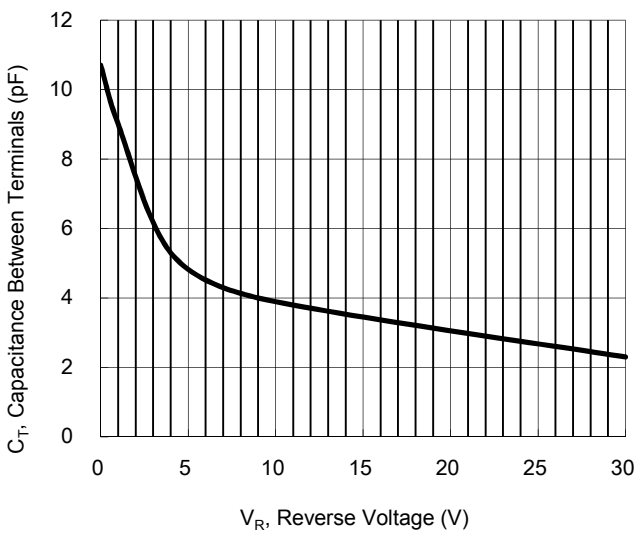
**Fig.1 Typical Forward Characteristics**



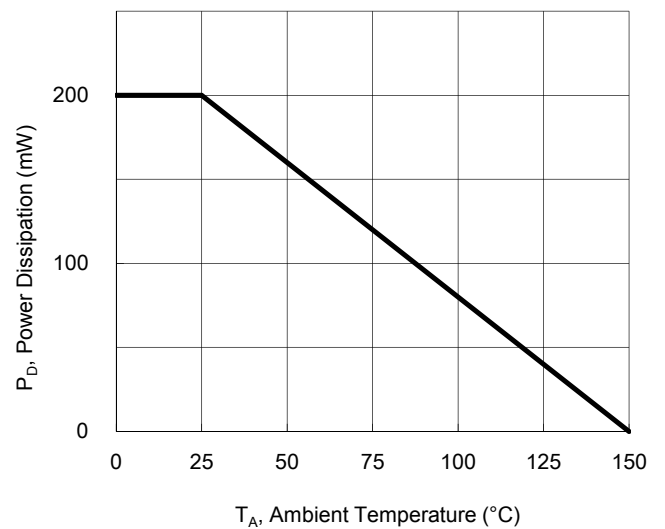
**Fig. 2 Typical Reverse Characteristics**



**Fig.3 Capacitance Between Terminals Characteristics**

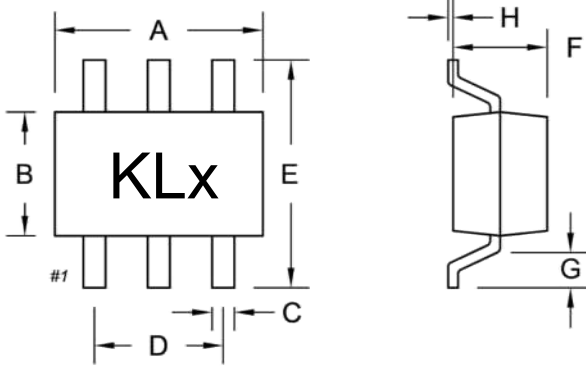


**Fig.4 Power Derating Curve**

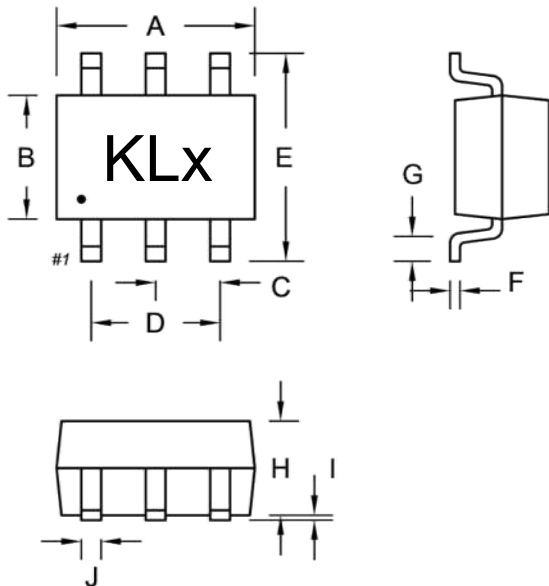


**PACKAGE OUTLINE DIMENSION**

SOT-363



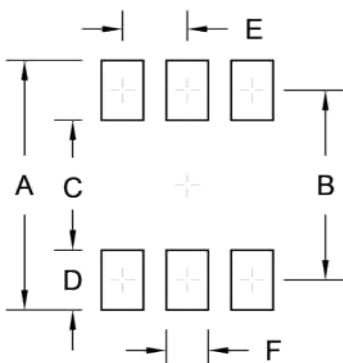
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.10	0.35	0.004	0.014
D	1.20	1.40	0.047	0.055
E	2.15	2.45	0.085	0.096
F	0.85	1.05	0.033	0.041
G	0.25	0.46	0.010	0.018
H	0.00	0.10	0.000	0.004



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	1.15	1.35	0.045	0.053
C	0.65 (Ref.)		0.026 (Ref.)	
D	1.30 (Ref.)		0.051 (Ref.)	
E	2.00	2.20	0.079	0.087
F	0.10	0.25	0.004	0.010
G	0.15	0.40	0.006	0.016
H	0.90	1.00	0.035	0.039
I	0	0.10	0.000	0.004
J	0.10	0.30	0.004	0.012

Note: "KLx" = Marking code

**SUGGEST PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	2.50	0.098
B	1.90	0.075
C	1.30	0.051
D	0.60	0.024
E	0.65	0.026
F	0.42	0.017

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