

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

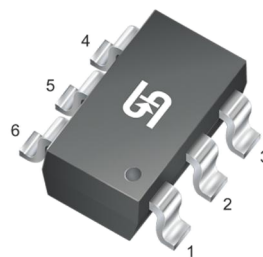
APPLICATIONS

- Voltage clamping
- Reverse polarity protection
- High speed switching

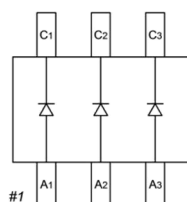
MECHANICAL DATA

- 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 ± 0.6 mg (approximately)

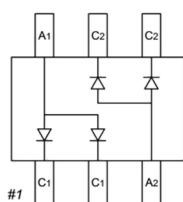
KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	600	mA
V_F at $I_F=100mA$	1	V
$T_{J\ MAX}$	150	°C
Package	SOT-363	



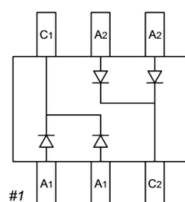
PIN CONFIGURATION



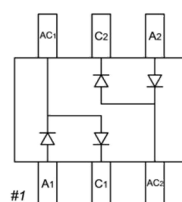
BAT54T-G



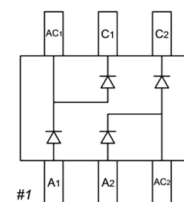
BAT54AD-G



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

THERMAL PERFORMANCE

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

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

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

Notes:

1. Pulse test with $PW = 0.3\ \text{ms}$
2. Pulse test with $PW = 30\ \text{ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
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

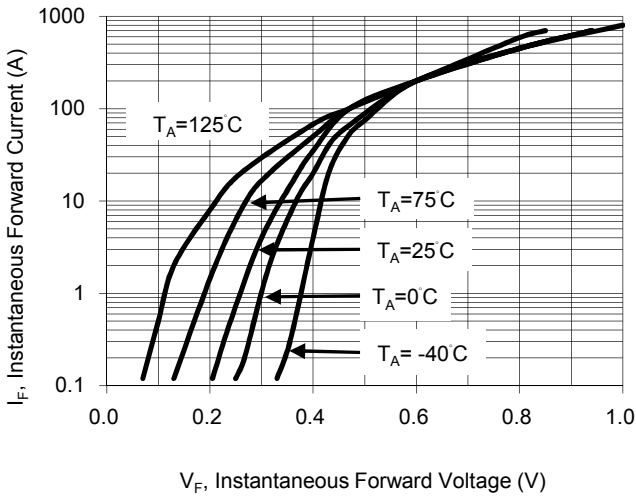


Fig. 2 Typical Reverse Characteristics

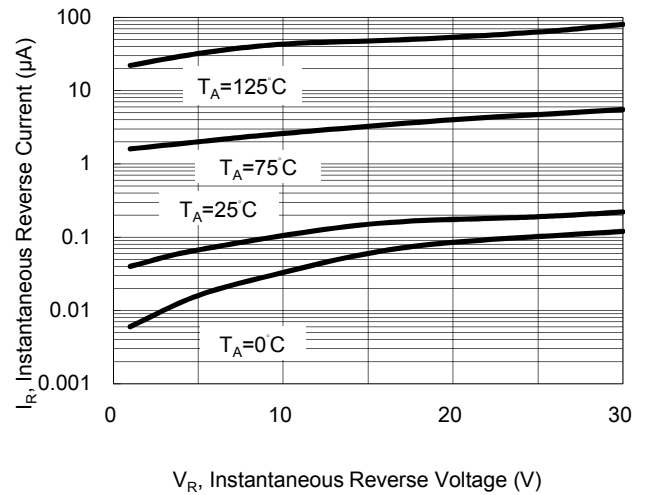


Fig.3 Capacitance Between Terminals Characteristics

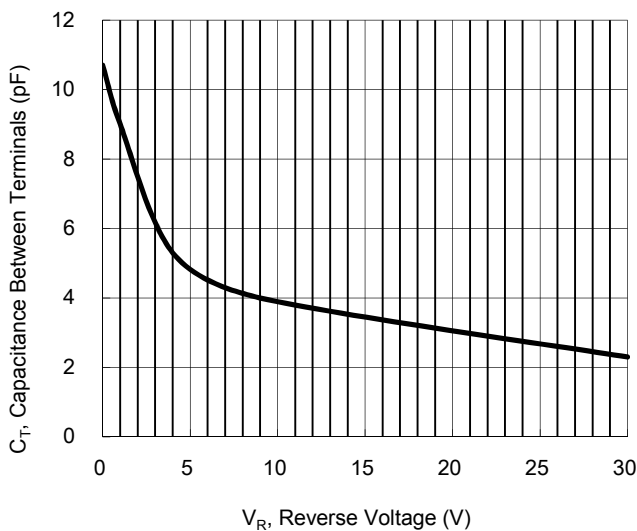
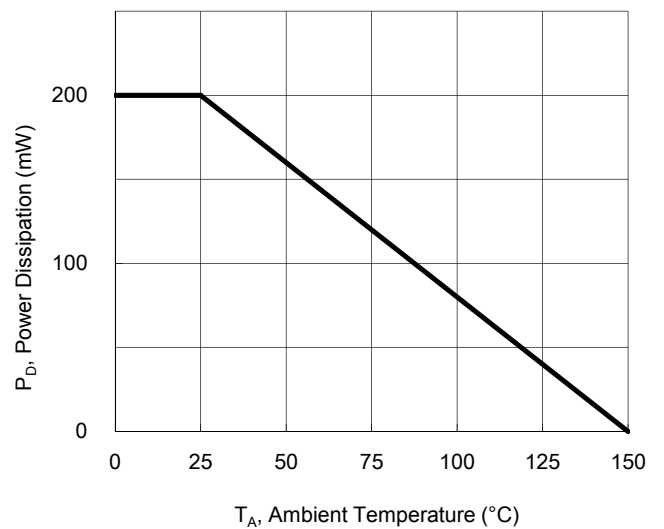
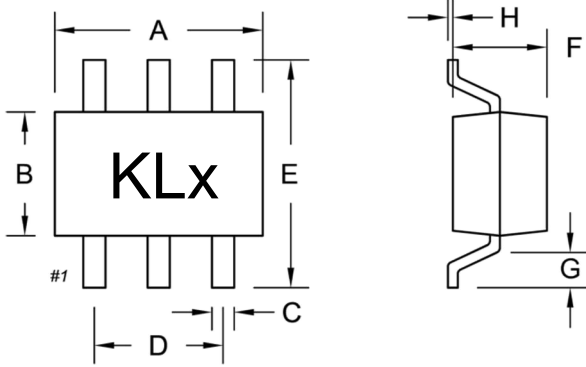


Fig.4 Power Derating Curve

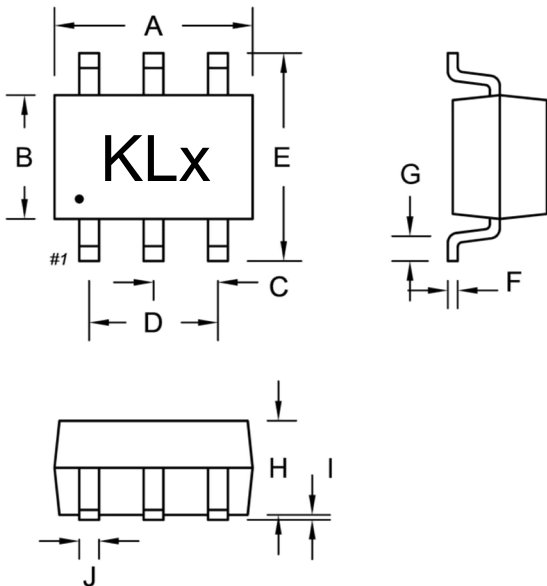


PACKAGE OUTLINE DIMENSION

SOT-363



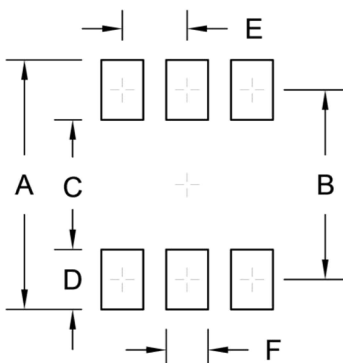
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.10	0.35	0.004	0.014
D	1.20	1.40	0.047	0.055
E	2.15	2.45	0.085	0.096
F	0.85	1.05	0.033	0.041
G	0.25	0.46	0.010	0.018
H	0.00	0.10	0.000	0.004



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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