www.omseni.com

OM SENI

BAT54CLT1G
Dual Common Cathode Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand−held and portable applications where space is limited.

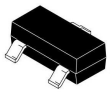
Features

- Extremely Fast Switching Speed
- Low Forward Voltage − 0.35 V (Typ) @ I_F = 10 mAdc
- AEC Qualified and PPAP Capable
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant*

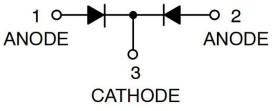
MAXIMUM RATINGS (T_J = 125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Forward Power Dissipation @ T_A = 25°C Derate above 25°C	P_F	 225 1.8	 mW mW/°C
Thermal Resistance (Note 1) Junction-to-Ambient (Note 2)	$R_{\theta JA}$	508 311	°C/W
Forward Current (DC)	I_F	200 Max	mA
Non−Repetitive Peak Forward Current t_p < 10 msec	I_{FSM}	 600	mA
Repetitive Peak Forward Current Pulse Wave = 1 sec, Duty Cycle = 66%	I_{FRM}	 300	mA
Junction Temperature	T_J	−55 to +125	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

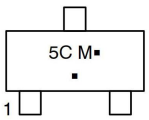
30 VOLT
DUAL COMMON CATHODE
SCHOTTKY BARRIER DIODES



SOT−23



MARKING DIAGRAM



5C = Device Code
M = Date Code
▪ = Pb−Free Package

(*Note: Microdot may be in either location)

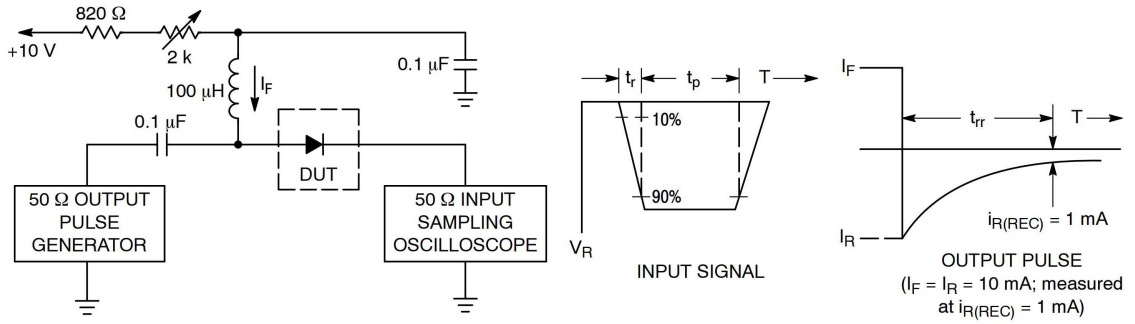
*Date Code orientation and/or position may vary depending upon manufacturing location.

OM SENI

BAT54CLT1G

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA)	$V_{(BR)R}$	30	–	–	V
Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	C_T	–	7.6	10	pF
Reverse Leakage (V_R = 25 V)	I_R	–	0.5	2.0	μA
Forward Voltage (I_F = 0.1 mAdc)	V_F	–	0.22	0.24	V
Forward Voltage (I_F = 30 mAdc)	V_F	–	0.41	0.5	V
Forward Voltage (I_F = 100 mAdc)	V_F	–	0.52	0.8	V
Reverse Recovery Time (I_F = I_R = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc, Figure 1)	t_{rr}	–	–	5.0	ns
Forward Voltage (I_F = 1.0 mAdc)	V_F	–	0.29	0.32	V
Forward Voltage (I_F = 10 mAdc)	V_F	–	0.35	0.40	V



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

OM SENI

BAT54CLT1G

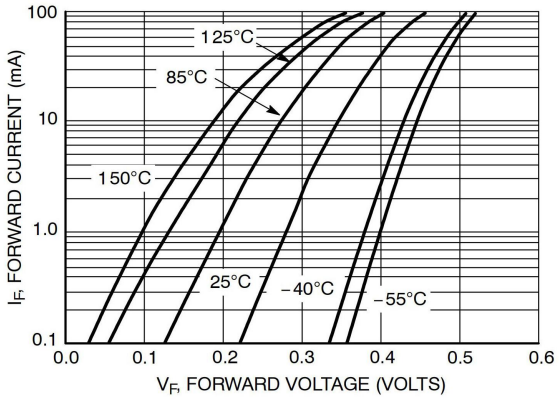


Figure 2. Forward Voltage

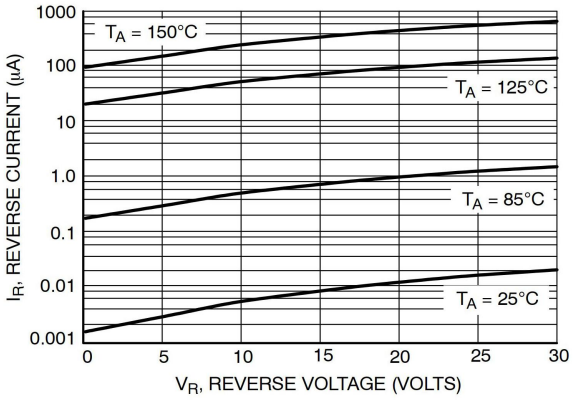


Figure 3. Leakage Current

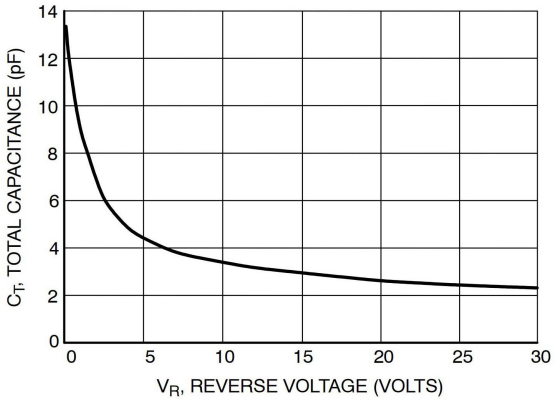


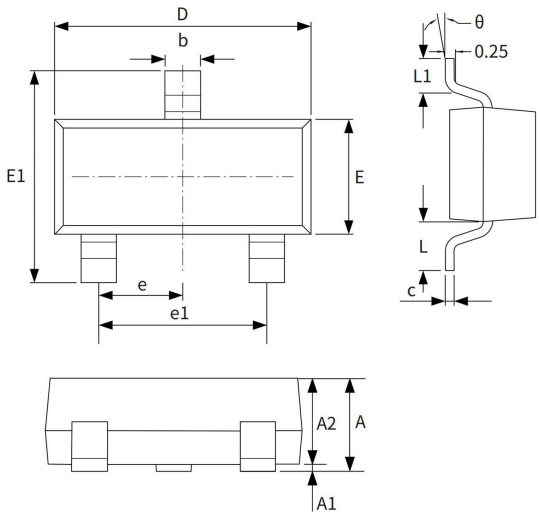
Figure 4. Total Capacitance

OM SENI

Ordering Information

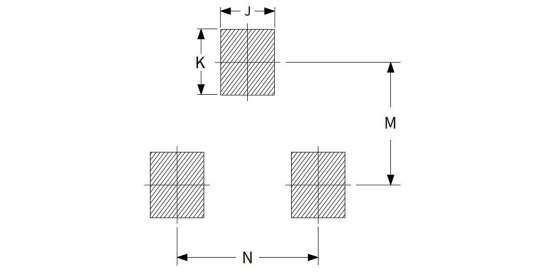
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	240000	7''

Package Outline Dimensions (SOT-23)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077