

## SURFACE MOUNT SCHOTTKY DIODE ARRAYS

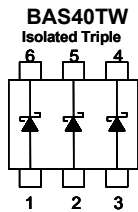
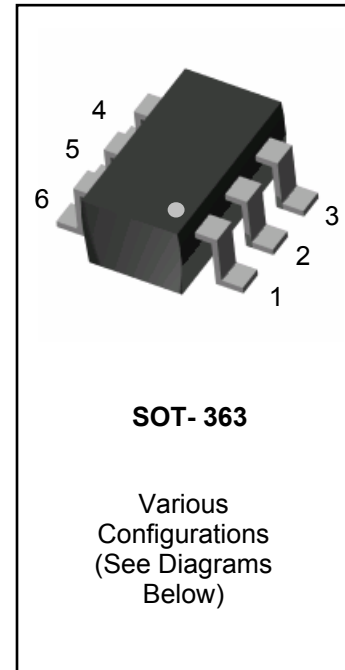
These devices feature electrically-isolated Schottky diodes connected in various configurations housed in a very small SOT-363 (SC70-6L)

### FEATURES

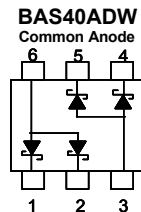
- Maximum forward voltage @ 10mA of 0.5V
- Maximum leakage current @ 25V of 1.0uA
- Reverse voltage rating of 40V
- Lead free in compliance with EU RoHS 2011/65/EU directive
- ; fYyb'a c`X]b[ `Wta dci bX'Ug'dYf`-97 \*%&(-`GfX''fk Uc[ Yb': fYYL

### APPLICATIONS

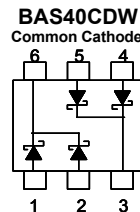
- Rail-to-rail ESD protection
- Overshoot and undershoot switching control
- Mobile phones and accessories
- Video game consoles connector ports



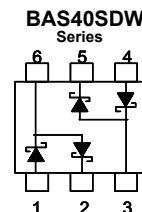
Marking Code: S40



Marking Code: S42



Marking Code: S43



Marking Code: S44

### MAXIMUM RATINGS (Per Diode) $T_J = 25^\circ\text{C}$ Unless otherwise noted

Rating	Symbol	Value	Units
Repetitive Peak Reverse Voltage	$V_{RRM}$	40	V
Continuous Reverse Voltage	$V_R$	40	V
Continuous Forward Current	$I_F$	200	mA
Non-repetitive Peak Forward Current, t = 1sec, Square Wave	$I_{FSM}$	600	mA
Total Power Dissipation (Note 1)	$P_{tot}$	225	mW
Operating Junction Temperature Range	$T_J$	-55 to 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to 125	$^\circ\text{C}$

Note 1. FR-5 Board 1.0 x 0.75 x 0.062 in.

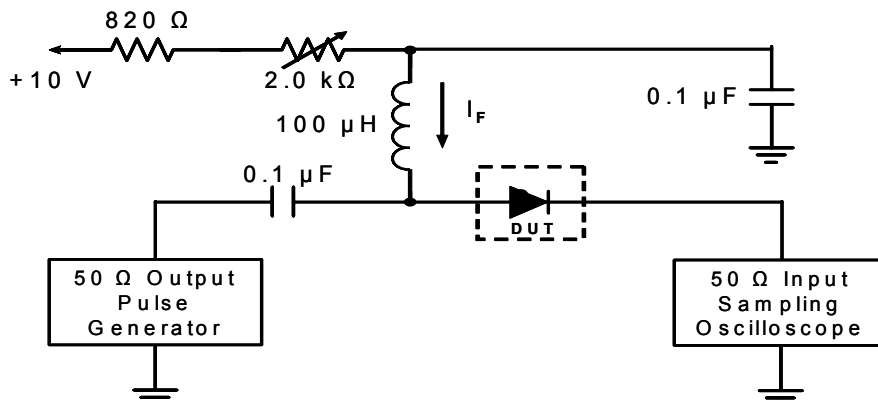
### THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Units
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS (Per Diode)**  $T_j = 25^\circ\text{C}$  Unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Breakdown Voltage (Note 1)	$V_{BR}$	$I_{BR} = 10\mu\text{A}$	40	-	-	V
Forward Voltage (Note 1)	$V_F$	$I_F = 1.0\text{mA}$	-	-	380	mV
		$I_F = 10\text{mA}$	-	-	500	
		$I_F = 40\text{mA}$	-	-	1000	
Reverse Leakage Current (Note 1)	$I_R$	$V_R = 25\text{V}$	-	-	1.0	$\mu\text{A}$
Total Capacitance	$C_T$	0Vdc Bias, $f = 1\text{ MHz}$	-	-	5.0	pF
Reverse Recovery Time (See Figure 1)	$t_{rr}$	$I_F = 10\text{mA}$ , $I_R = 10\text{mA}$ $R_L = 100\text{ Ohms}$ ; measured at $I_{R\text{rec}} = 1\text{mA}$	-	-	5.0	ns

Note 1. Short duration pulse to minimize self-heating effect



- Notes: 1. A 2.0k $\Omega$  variable resistor adjusted for a forward current ( $I_F$ ) to 10mA  
2. Input pulse is adjusted to  $I_{R(\text{peak})}$  is equal to 10mA

**Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT**

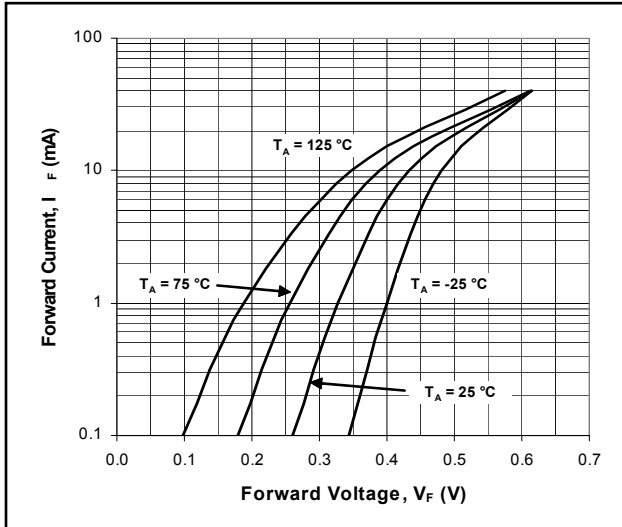


Fig. 2. Typical Forward Characteristics

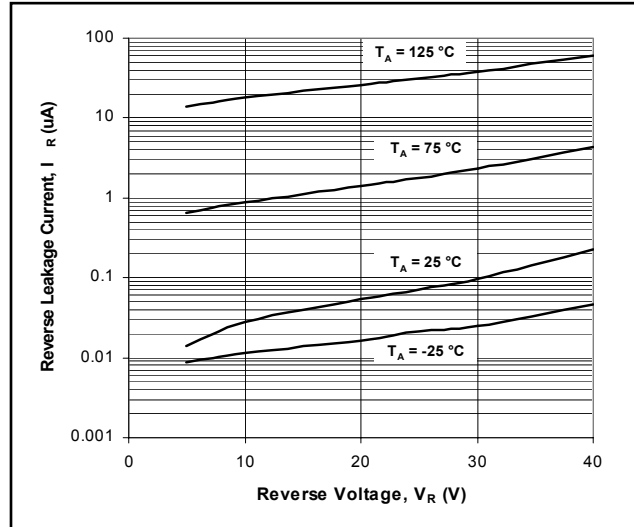


Fig. 3. Typical Reverse Characteristics

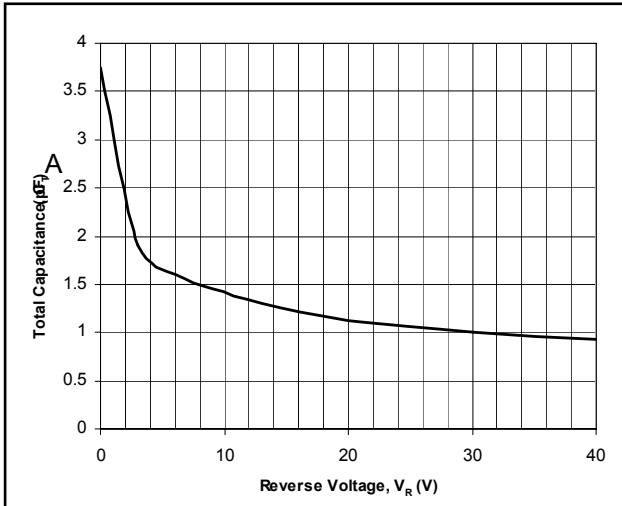


Fig. 4. Typical Capacitance

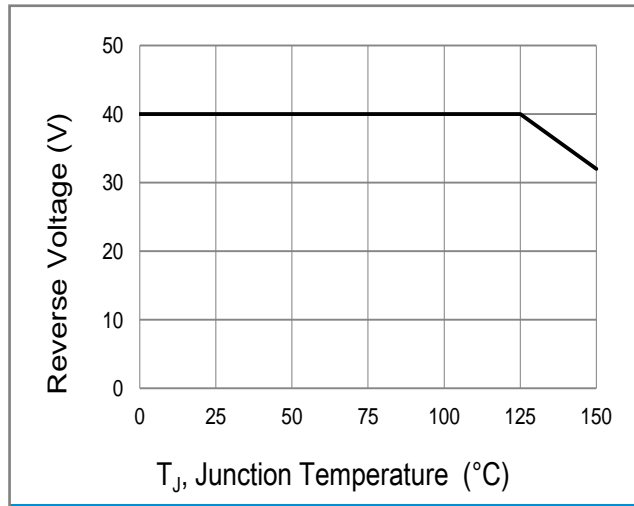


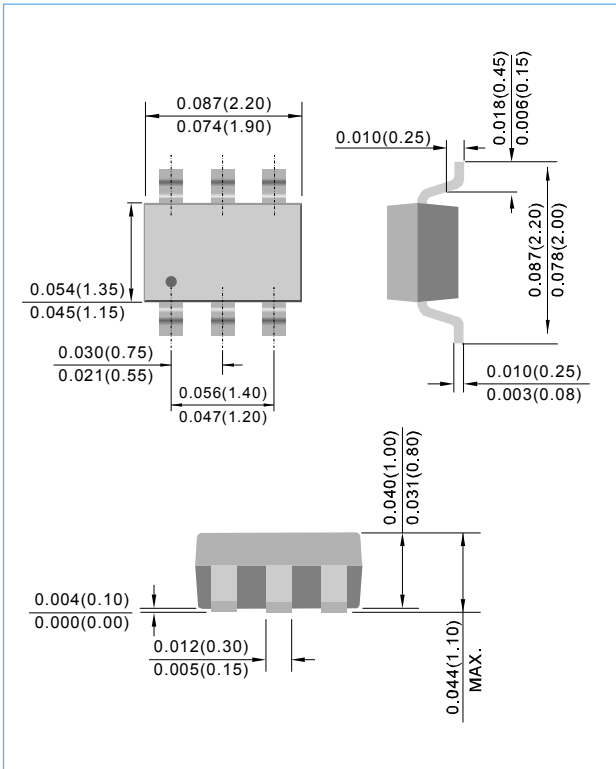
Fig.5 Operating Temperature Derating Curve



## PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS

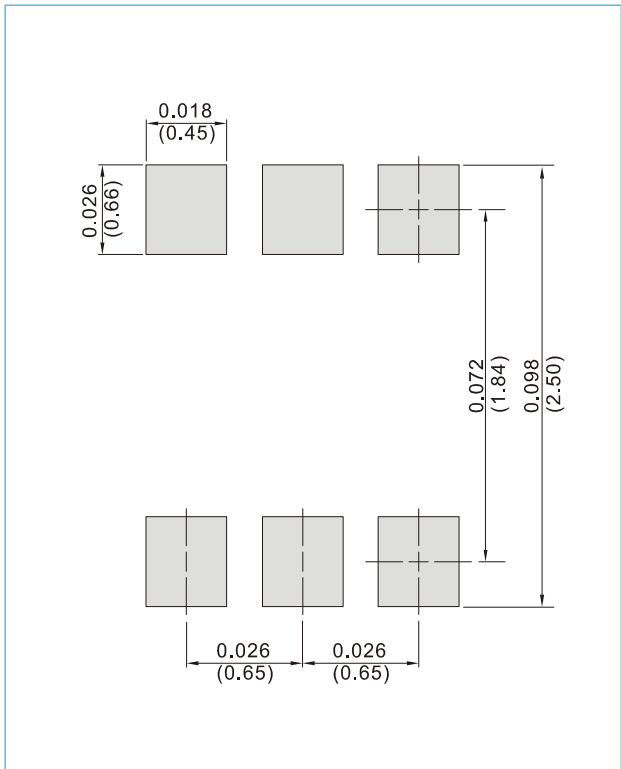
### SOT-363

Unit : inch(mm)



### SOT-363

Unit : inch(mm)



## ORDERING INFORMATION

BAS40xxx T/R7 - 7" reel, 3K units per reel

BAS40xxx T/R13 - 13" reel, 10K units per reel

# BAS40TW/ADW/CDW/SDW

## Part No\_packing code\_Version

BAS40TW\_R1\_00001

BAS40TW\_R2\_00001

For example :

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			

# **BAS40TW/ADW/CDW/SDW**

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