



DESCRIPTION

The BAT750 is available in SOT-23 package.

FEATURES

- Very Low Forward Voltage Drop
- High Conductance
- For Use in DC-DC Converter, PCMCIA, and Mobile Telecommunications Applications
- Available in SOT-23 package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAT750
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

$T_J = 125^{\circ}\text{C}$ unless otherwise noted.

V_{RRM} , Peak Repetitive Reverse Voltage	
V_{RWM} , Working Peak Reverse Voltage	40Volts
V_R , DC Blocking Voltage	
$V_{R(RMS)}$, RMS Reverse Voltage	28Volts
I_o , Average Rectified Current ^{NOTE1}	0.75A _{dc}
I_{FSM} , Non-Repetitive Peak Forward Current	5.5A _{dc}
P_D , Power Dissipation ^{NOTE1}	350mW
$R_{\theta JA}$, Typical Thermal Resistance, Junction to Ambient Air ^{NOTE1}	286°C/W
T_J, T_{stg} , Storage Temperature Range	-55°C to +150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Part mounted on FR-4 PC board with recommended pad layout.



ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise noted.

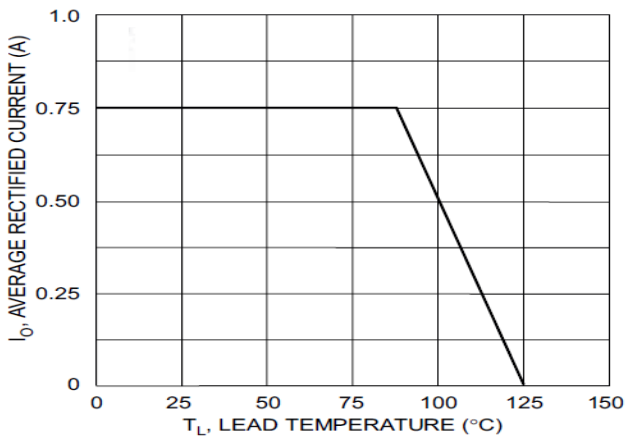
Parameter	Symbols	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V _{(BR)R}	I _R = 300μA NOTE2	40	45	-	Volts
Reverse Leakage	I _R	V _R = 30V NOTE2	-	50	100	μAdc
Forward Voltage	V _F	I _F = 50mAdc NOTE2	-	225	280	mVdc
		I _F = 100mAdc NOTE2		235	310	
		I _F = 250mAdc NOTE2		290	350	
		I _F = 500mAdc NOTE2		340	420	
		I _F = 750mAdc NOTE2		390	490	
		I _F = 1000mAdc NOTE2		420	540	
		I _F = 1500mAdc NOTE2		475	650	
Total Capacitance	C _T	V _R = 0V, f = 1.0MHz	-	175	-	pF
		V _R = 25V, f = 1.0MHz		25	-	

NOTE2: Short duration test pulse used to minimize self-heating effect.

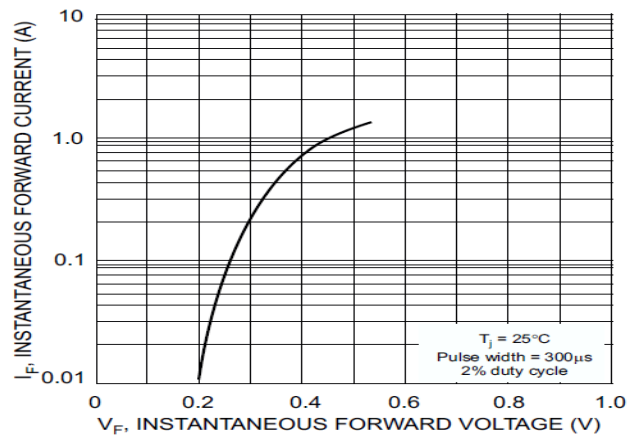


TYPICAL PERFORMANCE CHARACTERISTICS

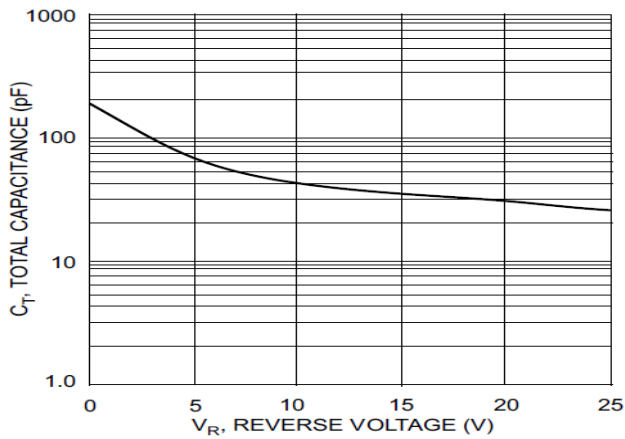
1. Forward Current Derating Curve



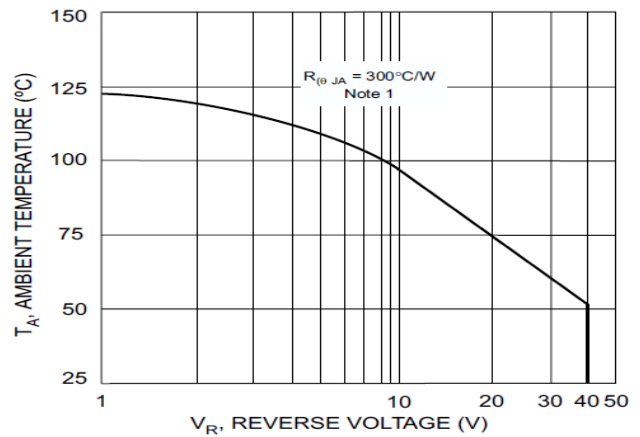
2. Typical Forward Characteristics



3. Total Capacitance vs Reverse Voltage



4. Typical Safe Operating Area

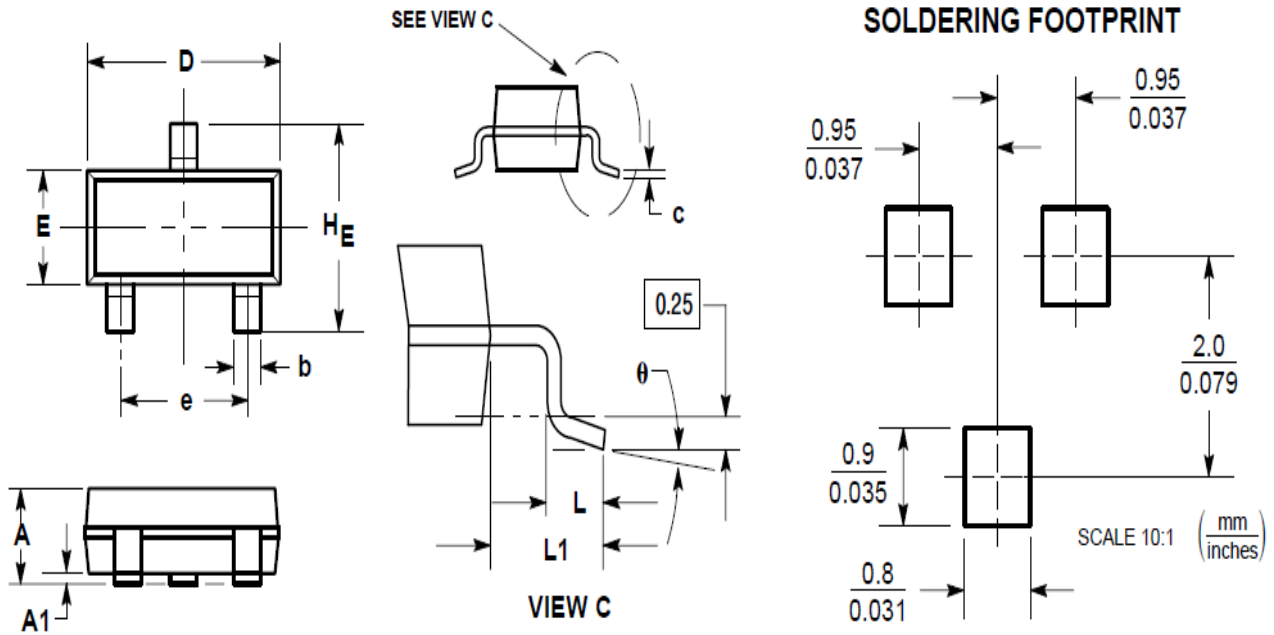


NOTE: Assumed application thermal conditions. $R_{\theta JA}$ varies depending on application



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.89	1.11
A1	0.001	0.004	0.01	0.10
b	0.015	0.020	0.37	0.50
c	0.003	0.007	0.09	0.18
D	0.110	0.120	2.80	3.04
E	0.047	0.055	1.20	1.40
e	0.070	0.081	1.78	2.04
L	0.004	0.012	0.10	0.30
L1	0.014	0.029	0.35	0.69
HE	0.083	0.104	2.10	2.64



IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc.'s integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or severe property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.