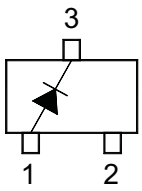
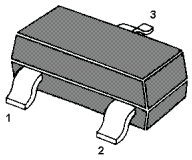
BAT1000

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Very low forward voltage drop
- High conductance
- For use in DC-DC converter, PCMCIA and mobile telecommunications applications





Marking Code: **K77**
SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Working Peak Reverse Voltage	V_{RWM}	40	V
DC Blocking Voltage	V_R	40	V
RMS Reverse Voltage	V_{RMS}	28	V
Average Rectified Forward Current	$I_{F(AV)}$	1	A
Non-repetitive Peak Forward Surge Current (t = 8.3 ms)	I_{FSM}	5.5	A
Power Dissipation	P_D	500	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	200	°C/W
Operating Temperature Range	T_j	- 40 to + 125	°C
Storage Temperature Range	T_{stg}	- 40 to + 150	°C

Electrical Characteristics at T_a = 25°C

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown voltage at I_R = 300 µA	$V_{(BR)R}$	40	-	V
Forward voltage at I_F = 50 mA at I_F = 100 mA at I_F = 250 mA at I_F = 500 mA at I_F = 750 mA at I_F = 1 A at I_F = 1.5 A	V_F	 - - - - - - -	 270 290 340 400 450 500 600	mV
Reverse current at V_R = 30 V	I_R	-	100	µA
Total capacitance at V_R = 0 V, f = 1 MHz at V_R = 25 V, f = 1 MHz	C_T	 - -	 175 25	pF

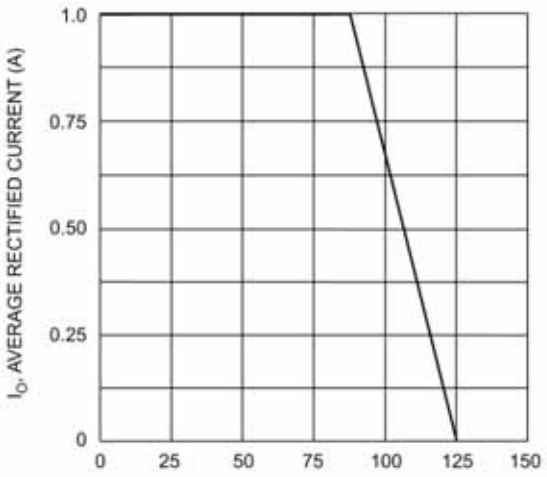


Fig. 1 Forward Current Derating Curve

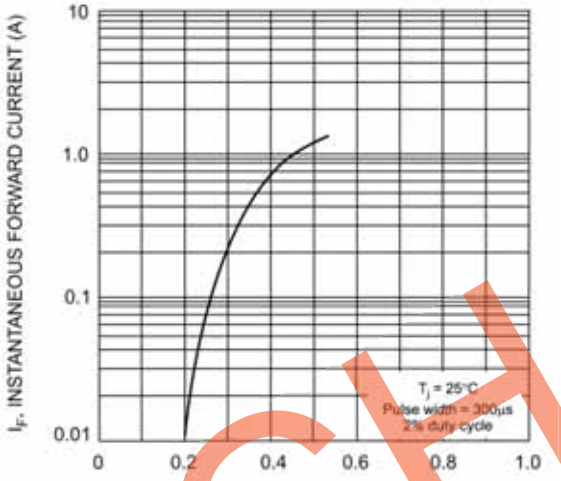


Fig. 2 Typical Forward Characteristics

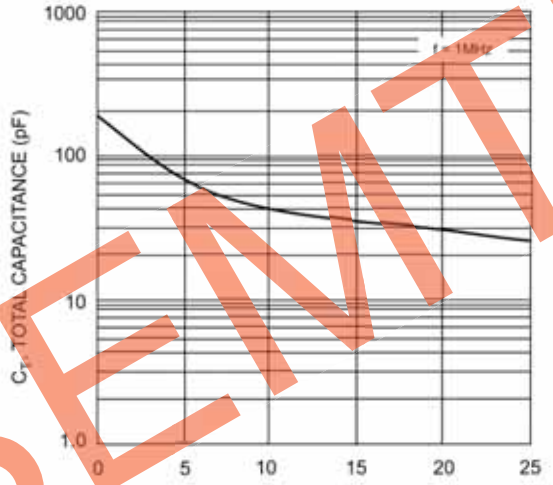


Fig. 3 Typ. Total Capacitance vs Reverse Voltage

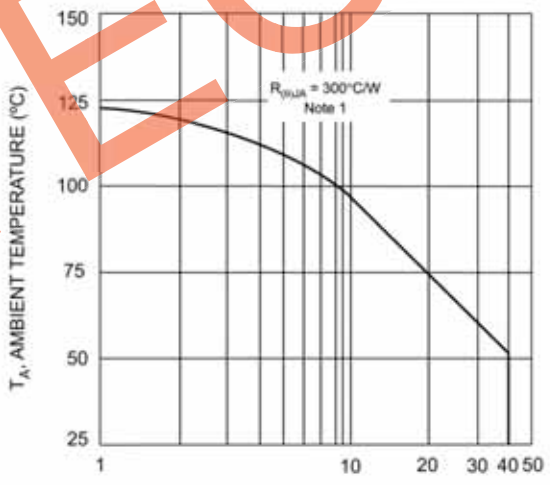


Fig. 4 Typical Safe Operating Area