




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	P0610- SOT23BAS160SA6
DATE	June 10, 2022
REVISION	A0
DESCRIPTION	SMD Plastic-Encapsulate Diodes, SOT-23 series, 3 pads Switching Diode, BAS16 Type, Working Peak Reverse Voltage 75V. Forward Continuous Current 300mA Operating Temp. Range -55°C ~+150°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD BAS16
PART CODE	SOT23BAS160SA6

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: June 10, 2022			

CUSTOMER APPROVE	
DATE:	

6/13/2022

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES

MAIN FEATURE

- Fast Switching Speed
- High Conductance



APPLICATION

- For General Purpose Switching Applications

RFQ

[Request For Quotation](#)

PART CODE GUIDE

SOT23	BAS160	S	A6
1	2	3	4

1) **SOT23**: SMD Plastic-Encapsulate Transistors, 3 pads SOT-23 series Code

2) **BAS160**: Type code for BAS16

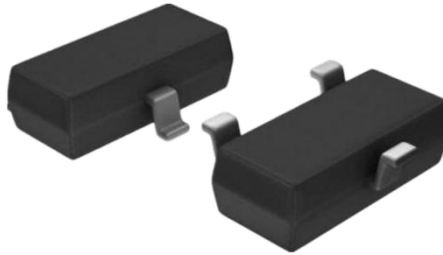
3) **S**: Package code, Package in Tape/Reel, 3000pcs/Reel

4) **A6**: Marking code for "A6" on the case surface, Different Marking for different specification.

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES

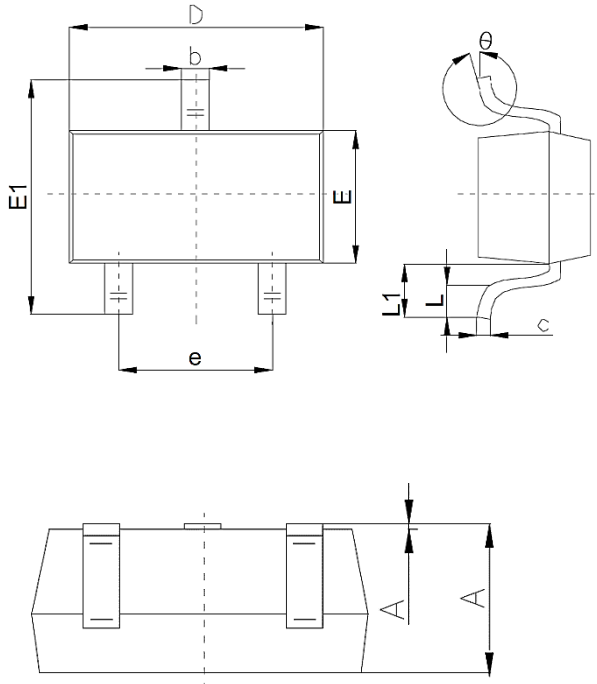
DIMENSION (Unit: Inch/mm)

Image for reference



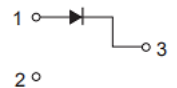
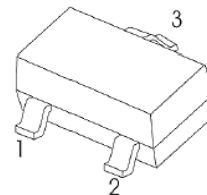
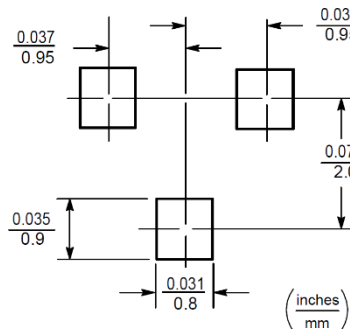
Marking: A6

SOT-23



Symbol	Value (mm)		
	Min.	Typ.	Max.
A	1.00		1.4
A1			0.10
b	0.35		0.50
c	0.10		0.20
D	2.70	2.90	3.10
E	1.20		1.60
E1	2.40		2.80
e		1.90	
L	0.10		0.30
L1	0.40		
θ	0°		10°

Recommend Pad Layout



- 1.Base
- 2.Emmitter
- 3.Collector

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES
MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC SOT-23 molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on case	Any	0.00019 Ounce, 0.00591 grams

MAX. RATINGS AT Ta=25 °C

Parameter	SYMBOLS	VALUE	UNITS
		LIMIT	
Non-repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-repetitive Peak Forward Surge Current @T=8.3ms	I_{FSM}	2.0	A
Power Dissipation	P_d	225	mW
Thermal Resistance Junction To Ambient	$R_{\theta JA}$	556	°C/W
Operation Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

SMD PLASTIC-ENCCAPULATE DIODES SOT23 SERIES

ELECTRICAL CHARACTERISTICS AT Ta= 25 °C

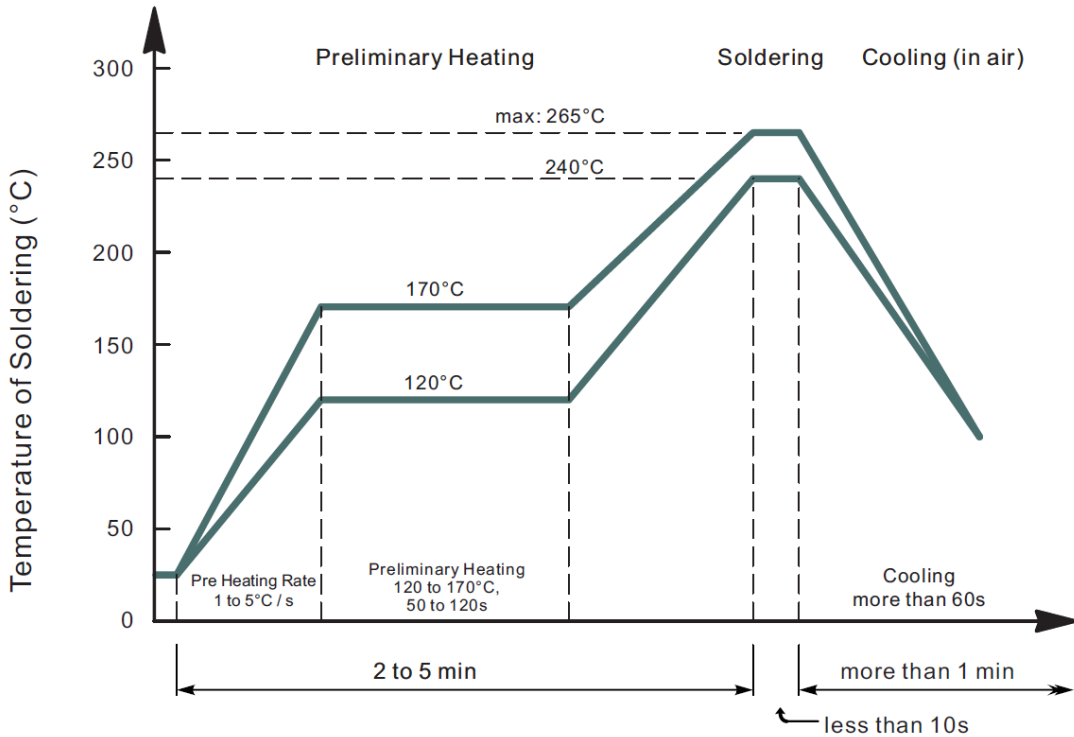
Parameter	SYMBOLS	VALUE			UNIT	Condition
		Min.	Typ.	Max.		
Reverse Breakdown Voltage	V _(BR)	75			V	I _R = 100μA
Reverse Voltage Leakage Current	I _R			1	μA	V _R = 75 V
Forward Voltage	V _F			0.715	V	I _F =1 mA
				0.855		I _F =10 mA
				1		I _F =50 mA
				1.25		I _F =150 mA
Diode Capacitance	C _D			2	pF	V _R =0, f=1 MHz
Revers Recovery Time	t _{rr}			6	ns	I _F =I _R =10 mA, I _{rr} =0.1 × I _R , R _L =100 Ω

SMD PLASTIC-ENCCAPULATE DIODES SOT23 SERIES
RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

SMD PLASTIC-ENCCAPULATE DIODES SOT23 SERIES

SUGGESTED REFLOW PROFILE (For Reference Only)



- Recommended peak temperature is over 245°C, If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)
- Welding shall not exceed 2 times
- Remark: lead free solder paste (96.5 sn/3.0 Ag/0.5Cu)

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

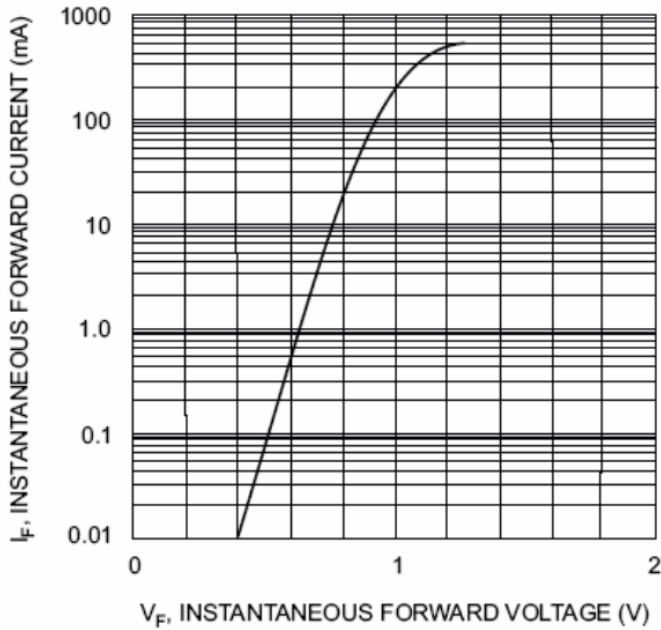


Fig. 1 Forward Characteristics

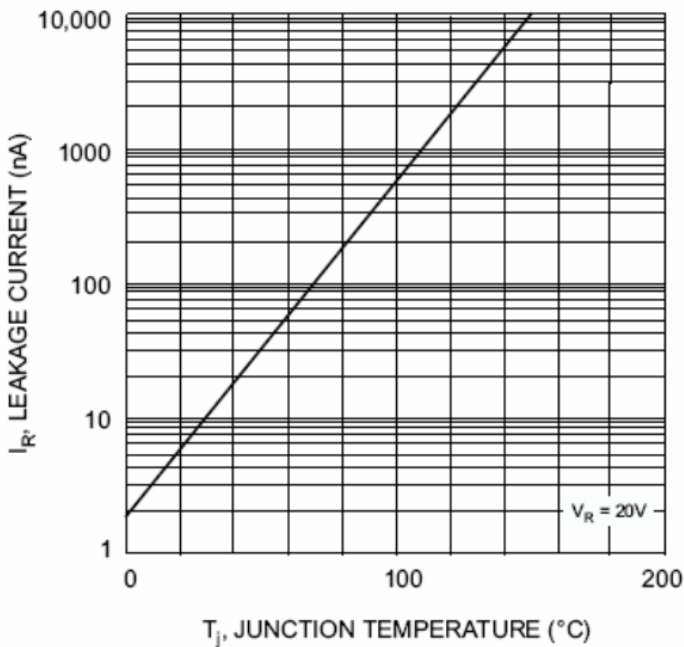
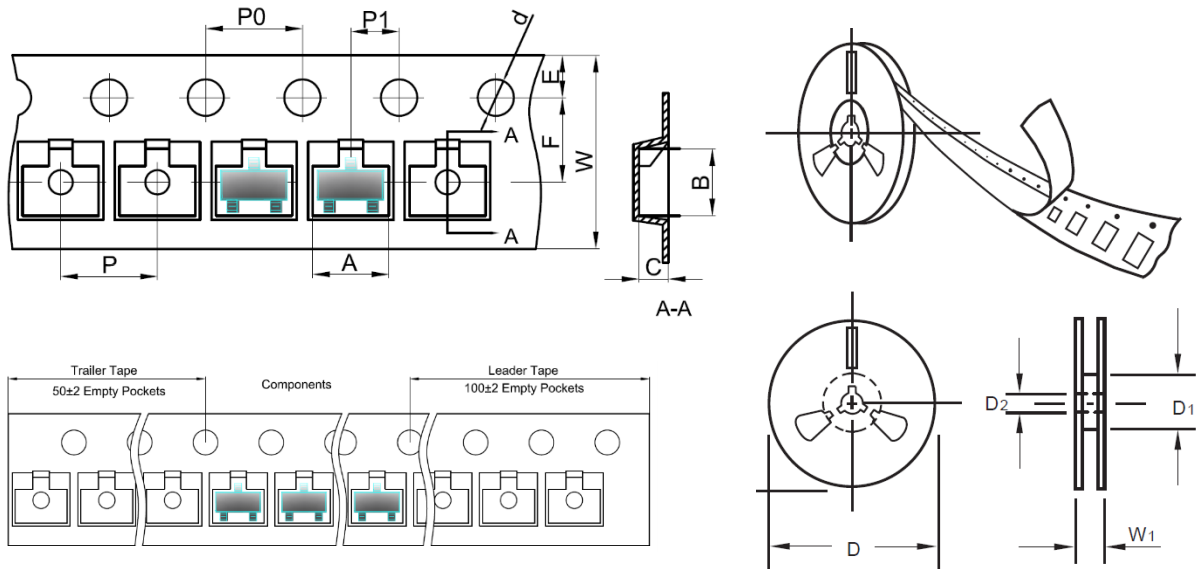


Fig. 2 Leakage Current vs Junction Temperature

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES
TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.



Item	Symbol	Tolerance	SOT-23
Carrier width	A	0.1	3.15
Carrier Length	B	0.1	2.77
Carrier Depth	C	0.1	1.22
Sprocket hole	d	0.05	1.55
7"Reel outside diameter	D	2.0	178.00
7"Reel inner diameter	D1	Min.	54.4
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.00
Reel width	W1	1.0	19.50

SMD PLASTIC-ENCAPULATE DIODES SOT23 SERIES

PACKAGE

Case Code	SOT-23
Reel Size	7"
Reel Size	178 mm
MPQ/Reel	3000 pcs
Qty. /Box	6000 pcs
G.W/Box	1 LBS

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