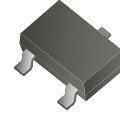


ABAT54W-HF Series

RoHS Device
Halogen Free



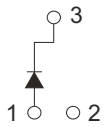
Features

- Extremely high switching speed.
- Low forward voltage.
- AEC-Q101 Qualified.

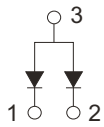
Mechanical data

- Case: SOT-323, molded plastic.
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

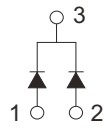
Circuit Diagram



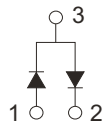
ABAT54W-HF



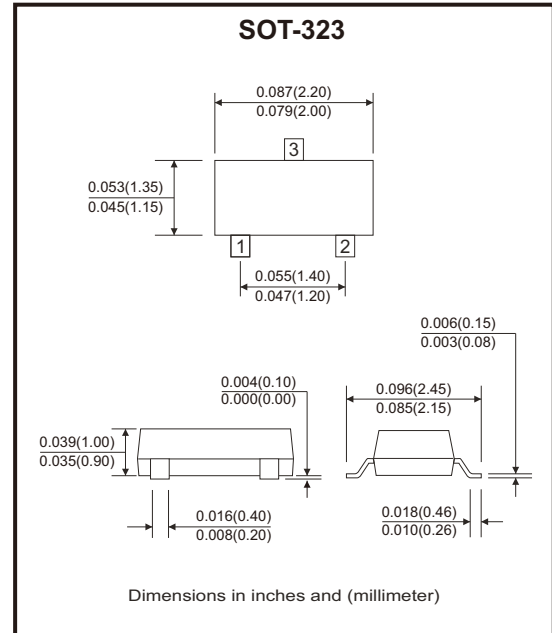
ABAT54AW-HF



ABAT54CW-HF



ABAT54SW-HF



Maximum Rating (at $T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak repetitive reverse voltage	V_{RRM}	30	V
Working peak reverse voltage	V_{RWM}	30	V
DC blocking voltage	V_R	30	V
Forward continuous current	I_O	200	mA
Non-repetitive peak forward surge current @ $t = 8.3\text{ms}$	I_{FSM}	600	mA
Peak repetitive forward current @ $t \leq 1\text{s}$, $\delta \leq 0.5$	I_{FRM}	300	mA
Power dissipation	P_D	200	mW
Thermal resistance, junction to ambient	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operation junction temperature range	T_J	-40 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (at $T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_{BR}	$I_R = 100\mu\text{A}$	30			V
Forward voltage	V_F	$I_F = 0.1\text{mA}$			0.24	V
		$I_F = 1\text{mA}$			0.32	
		$I_F = 10\text{mA}$			0.40	
		$I_F = 30\text{mA}$			0.50	
		$I_F = 100\text{mA}$			1.00	
Reverse current	I_R	$V_R = 25\text{V}$			2	μA
Diode Capacitance	C_J	$V_R = 1\text{V}, f = 1\text{MHz}$			10	pF
Reverse recovery time	t_{rr}	$I_F = I_R = 10\text{mA}, I_{rr} = 1\text{mA}, R_L = 100\Omega$			5	ns

Typical Rating and Characteristic Curves (ABAT54W-HF Series)

Fig.1 - Forward Characteristic

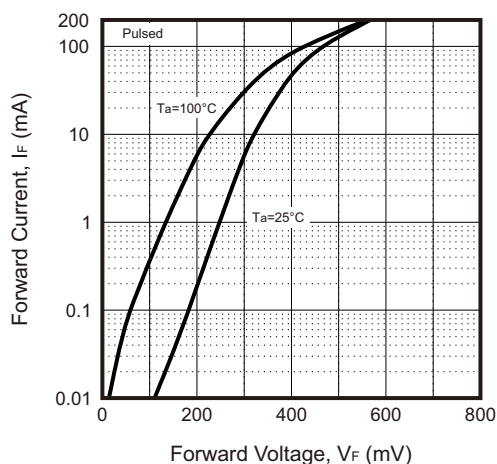


Fig.2 - Reverse Characteristic

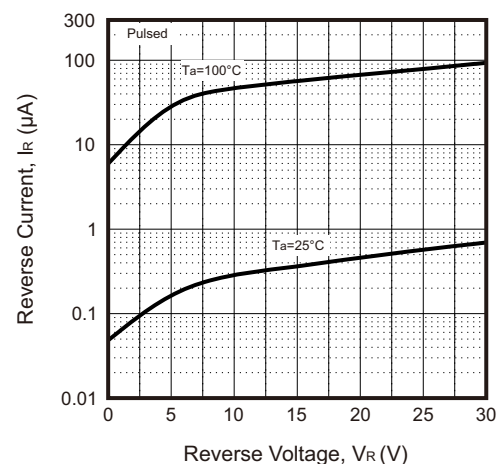


Fig.3 - Capacitance Characteristics

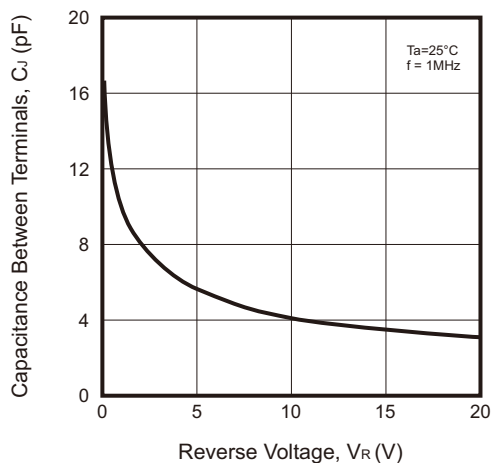
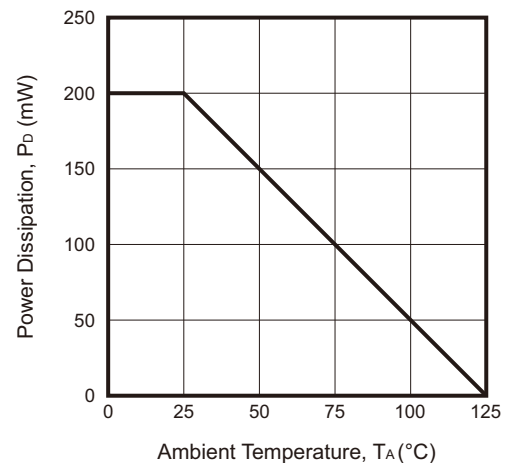
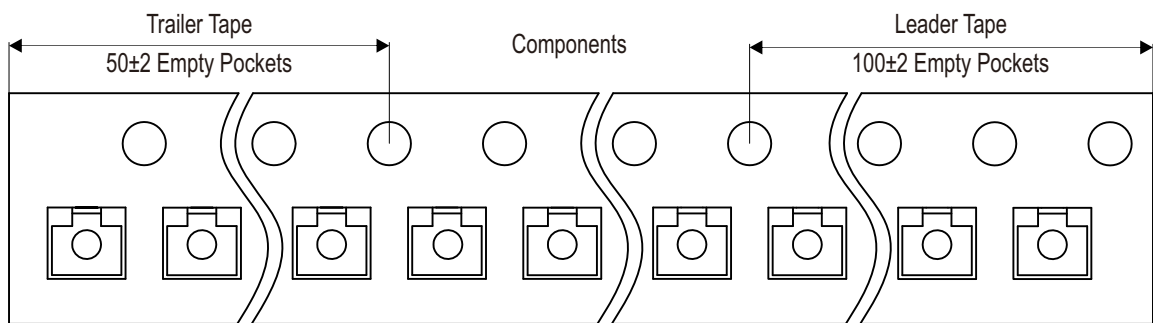
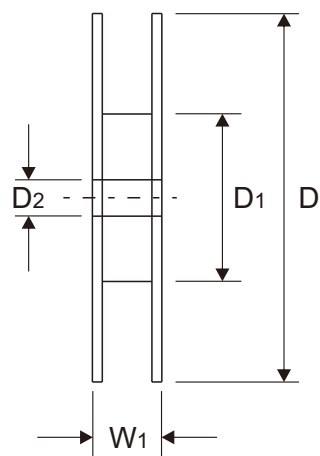
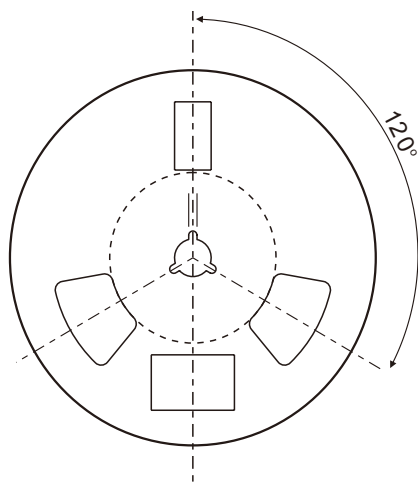
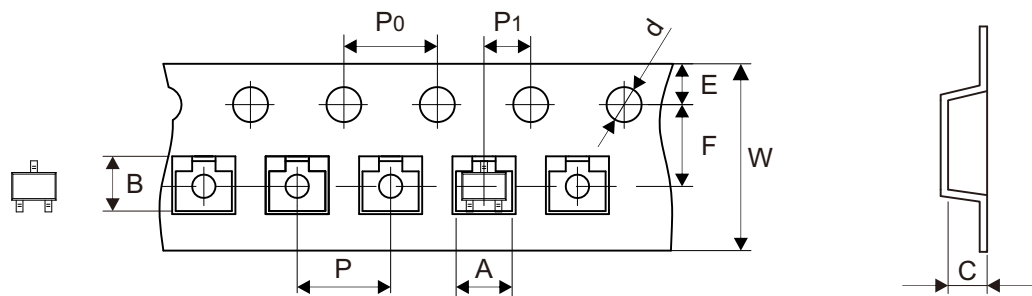


Fig.4 - Power Derating Curve



Reel Taping Specification

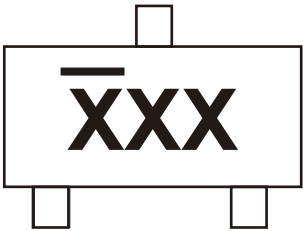


SOT-323	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.25 ± 0.18 - 0.00	2.55 ± 0.10	1.19 ± 0.10	1.55 ± 0.10 - 0.00	178.00 ± 0.10	54.40 ± 0.04	13.00 ± 0.20
	(inch)	0.089 ± 0.007 - 0.000	0.100 ± 0.004	0.047 ± 0.004	0.061 ± 0.004 - 0.000	7.008 ± 0.004	2.142 ± 0.002	0.512 ± 0.008

SOT-323	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 ± 0.012 - 0.004	0.484 ± 0.039

Marking Code

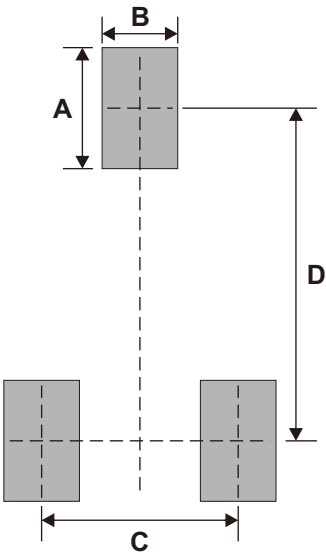
Part Number	Marking Code
ABAT54W-HF	KL5
ABAT54AW-HF	KL6
ABAT54CW-HF	KL7
ABAT54SW-HF	KL8



xxx = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	SOT-323	
	(mm)	(inch)
A	0.80	0.031
B	0.50	0.020
C	1.30	0.051
D	2.20	0.087



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-323	3,000	7