Low V_F SMD Schottky Barrier Rectifiers

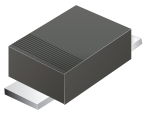
CDBMTS140L-HF

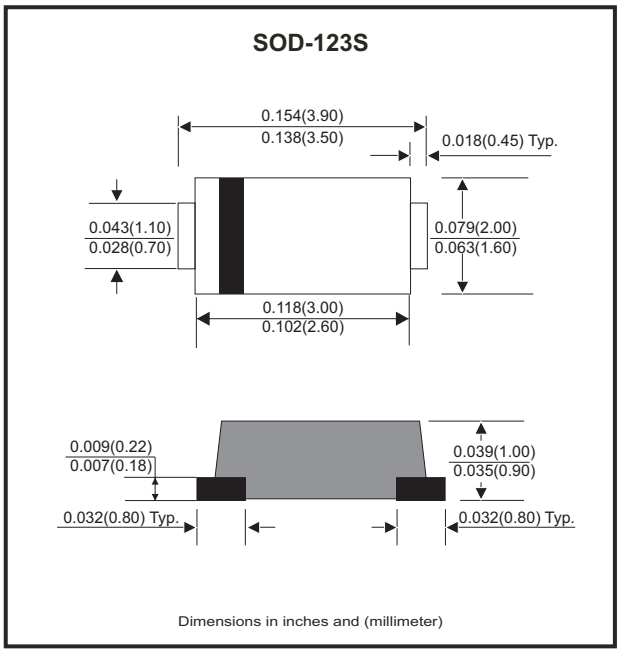
Reverse Voltage: 40 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free





Features

- Excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guard ring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant.
- Case: Molded plastic, SOD-123S/MINI SMA
- Terminals: Solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position: any
- Weight: 0.0155 grams(approx.)

Circuit Diagram



Maximum Ratings (at T_A=25°C unless otherwise noted)

Parameter		Symbol	Min	Typ	Max	Unit
Repetitive peak reverse voltage		V_{RRM}			40	V
RMS Voltage		V_{RMS}			28	V
Continuous reverse voltage		V_R			40	V
Thermal resistance	Junction to ambient	$R_{\Theta JA}$		53		°C/W
	Junction to case	$R_{\Theta Jc}$		35		
Operating temperature range		T_J	-55		+100	°C
Storage temperature range		T_{STG}	-65		+175	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward rectified current		I_O			1	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load(JEDEC method)	I_{FSM}			30	A
Forward voltage	I_F = 1 A	V_F			0.4	V
Reverse current	V_R = V_{RWM} , T_J = 25°C	I_R			1.0	mA
	V_R = V_{RWM} , T_J = 75°C	I_R			20	
Diode Junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		130		pF

Rating and Typical Characteristic Curves (CDBMTS140L-HF)

Fig.1- Typical Forward Characteristics

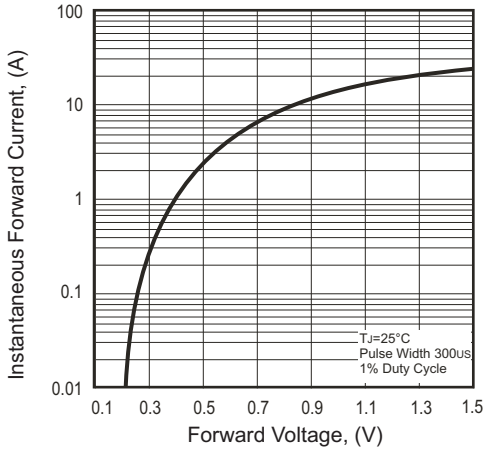


Fig.2- Typical Forward Current Derating Curve

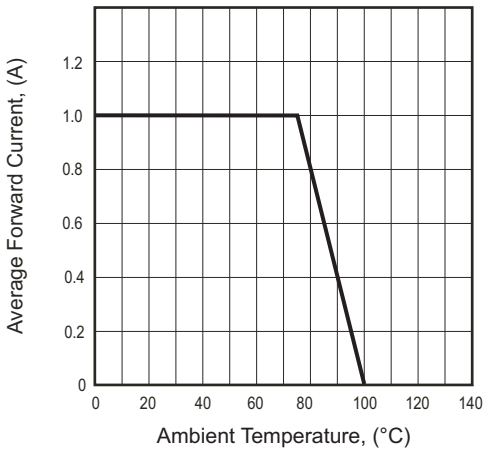


Fig.3 - Typical Reverse Characteristics

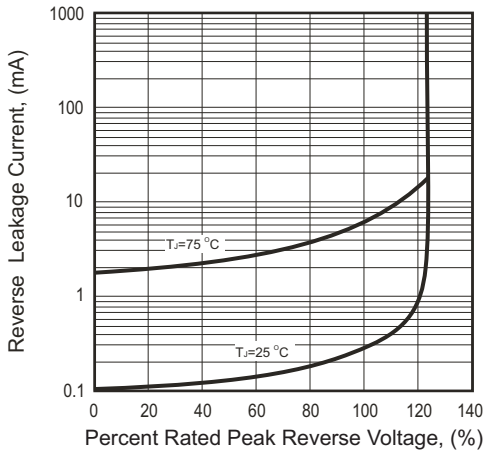


Fig.4 - Maximum Non-Repetitive Forward Surge Current

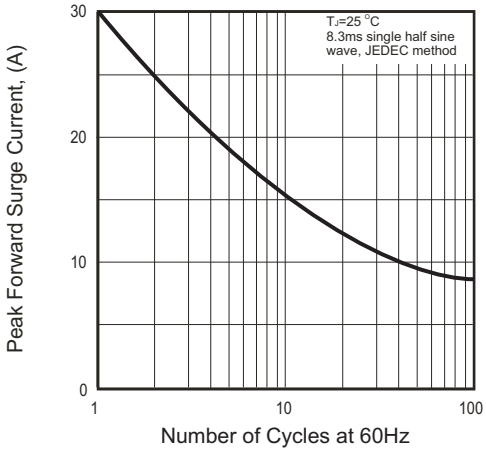
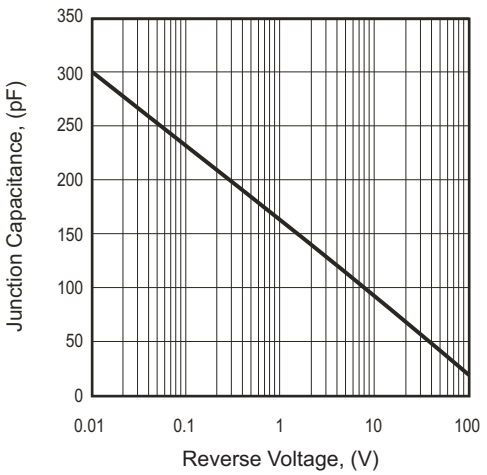
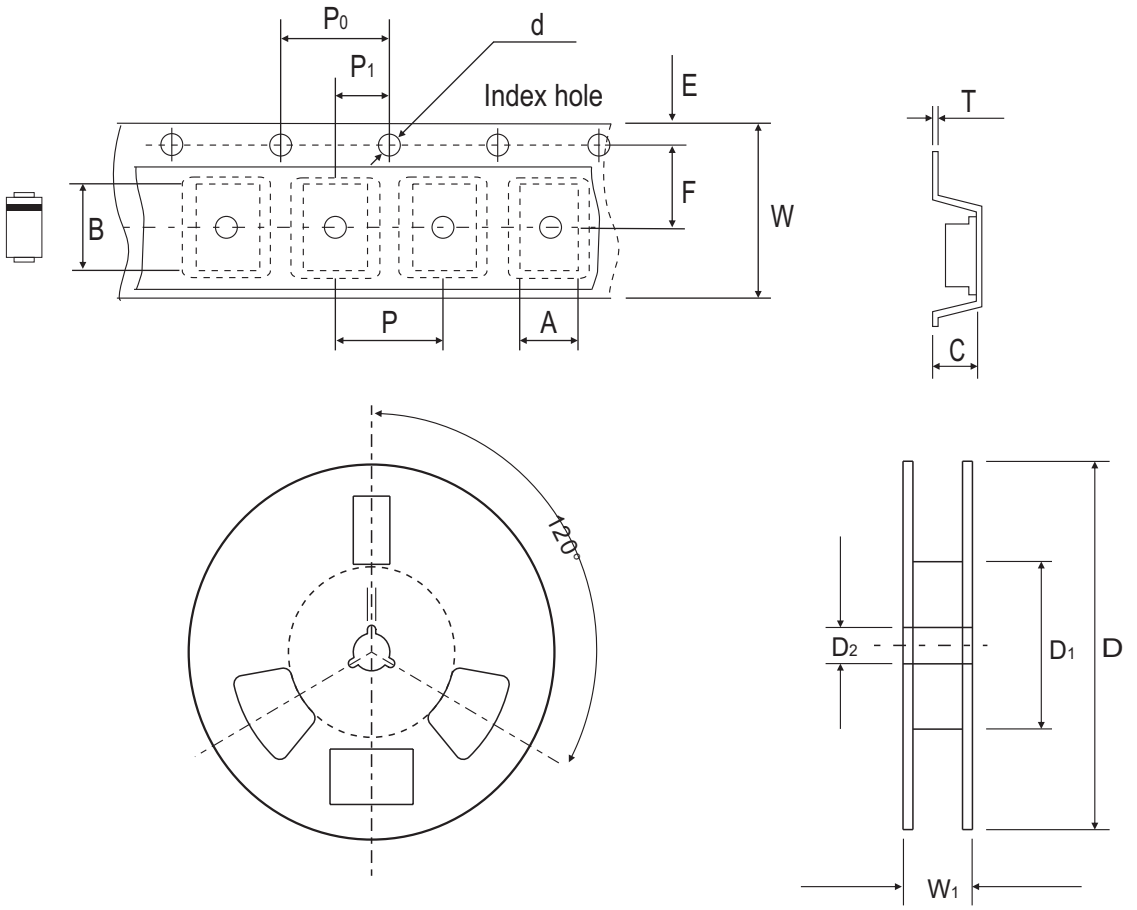


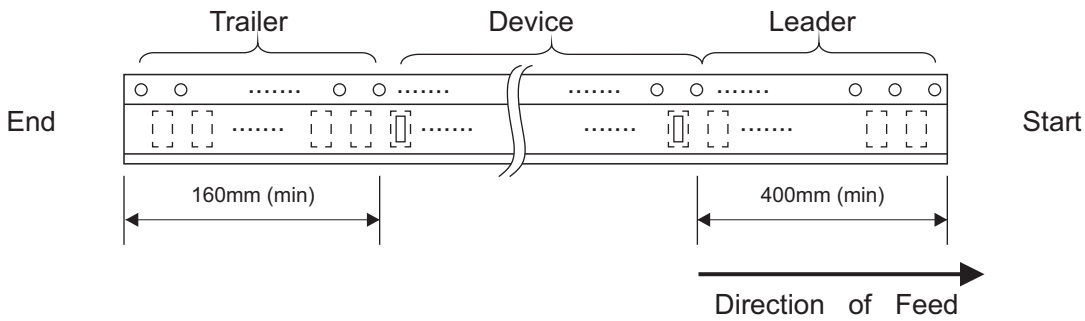
Fig.5 - Typical Junction Capacitance



Company reserves the right to improve product design , functions and reliability without notice.

Reel Taping Specification





	SYMBOL	A	B	C	d	D	D1	D2
SOD-123S	(mm)	2.00 ± 0.10	3.85 ± 0.10	1.10 ± 0.10	1.50 ± 0.10	178 ± 2.00	62.0 MIN.	13.0 ± 0.50
	(inch)	0.079 ± 0.004	0.152 ± 0.004	0.043 ± 0.004	0.059 ± 0.004	7.00 ± 0.079	2.440 MIN.	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	T	W	W1
SOD-123S	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.23 ± 0.10	8.00 ± 0.30	11.40 ± 1.0
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.004	0.315 ± 0.012	0.449 ± 0.039

Marking Code

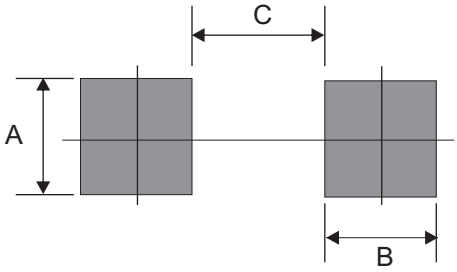
Part Number	Marking Code
CDBMTS140L-HF	L4



xx / xxx = Product type marking code

Suggested PAD Layout

SIZE	SOD-123S	
	(mm)	(inch)
A	1.10	0.043
B	1.00	0.039
C	2.00	0.079



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123S	3,000	7