



SBM4045LDC

ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage

45 V

Current

40 A

TO-263 / D²PAK

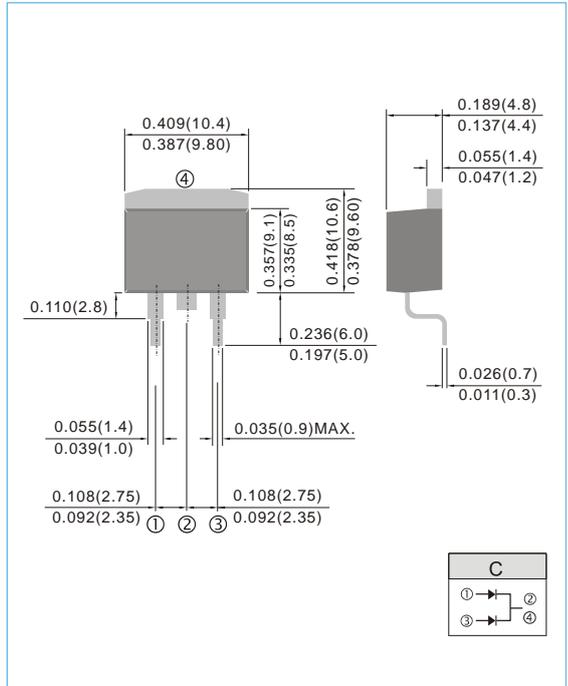
Unit : inch(mm)

Features

- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Lead free in compliance with EU RoHS 2011/65/EU directive

Mechanical Data

- Case: TO-263 package
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.0515 ounces, 1.46 grams.
- Marking: Part number



Maximum Ratings And Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	45	V
Maximum rms voltage		V_{RMS}	32	V
Maximum dc blocking voltage		V_R	45	V
Maximum average forward rectified current	per device	$I_{F(AV)}$	40	A
	per diode		20	
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	300	A
Typical junction capacitance ($V_R=4\text{V}$, $f=1\text{MHz}$)		C_J	1100	pF
Typical thermal resistance	(Note 1)	$R_{\theta JC}$	3.5	$^{\circ}\text{C/W}$
Operating junction temperature range		T_J	-55 to +150	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note : 1. Mounted on infinite heatsink.



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

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage per diode	V_{BR}	$I_R=0.5\text{mA}$	$T_J=25^\circ\text{C}$	45	-	-	V
Instantaneous forward voltage per diode	V_F	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	-	0.28	-	V
		$I_F=5\text{A}$		-	0.35	-	
Instantaneous forward voltage per diode	V_F	$I_F=20\text{A}$	$T_J=25^\circ\text{C}$	-	0.47	0.51	V
		$I_F=1\text{A}$		$T_J=125^\circ\text{C}$	-	0.17	
Reverse current per diode	I_R	$V_R=36\text{V}$	$T_J=25^\circ\text{C}$		-	86	-
			$T_J=125^\circ\text{C}$	-	20	-	mA
		$V_R=45\text{V}$	$T_J=25^\circ\text{C}$	-	-	320	μA
Reverse current per diode	I_R	$V_R=45\text{V}$	$T_J=125^\circ\text{C}$	-	28	-	mA

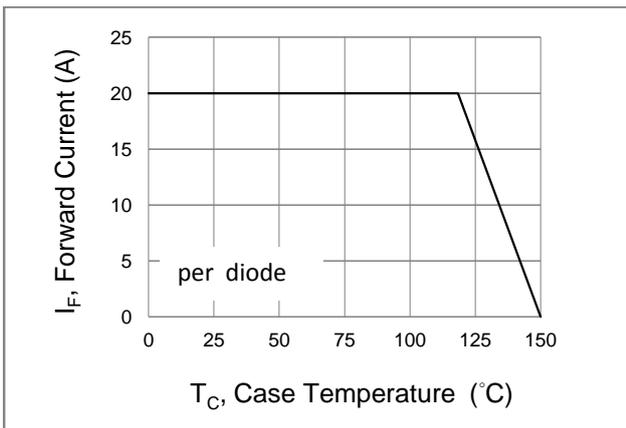


Fig.1 Forward Current Derating Curve

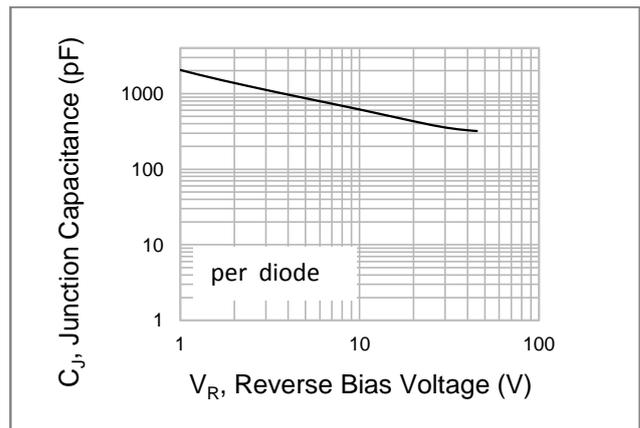


Fig.2 Typical Junction Capacitance

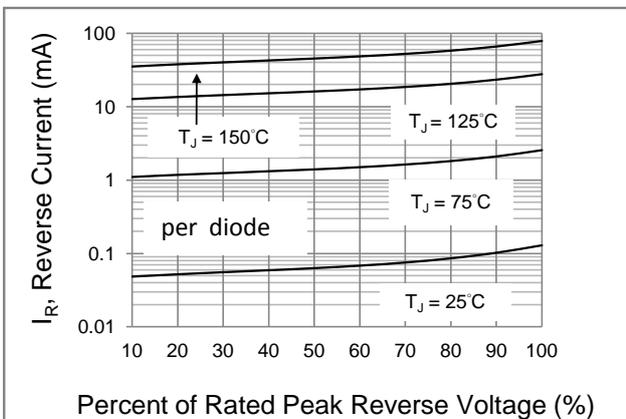


Fig.3 Typical Reverse Characteristics

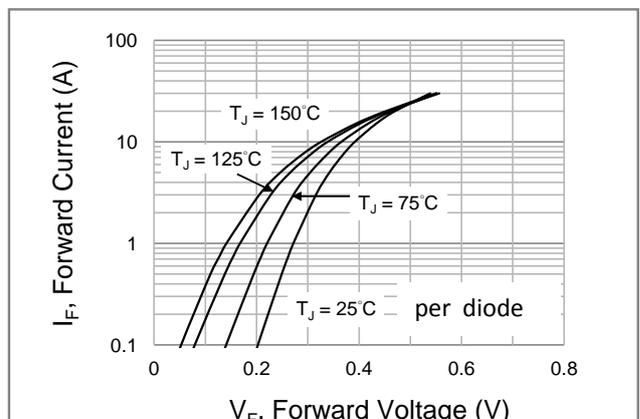
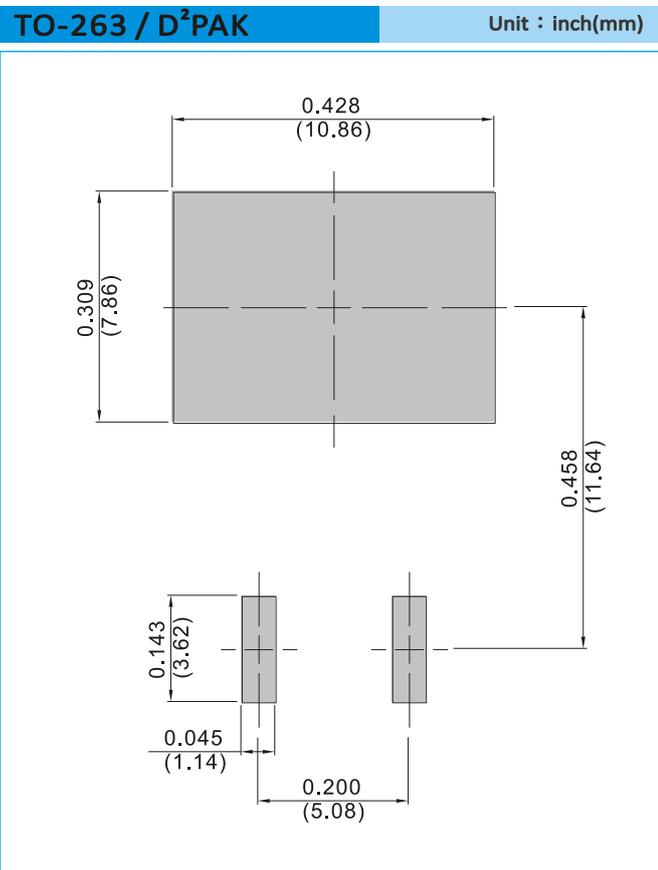


Fig.4 Typical Forward Characteristics



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R – 0.8K per 13" plastic Reel



SBM4045LDC

Part No_packing code_Version

SBM4045LDC_R2_00001

SBM4045LDC_R2_10001

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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