

2.0A Surface Mount Efficient Fast Rectifiers-50-600V

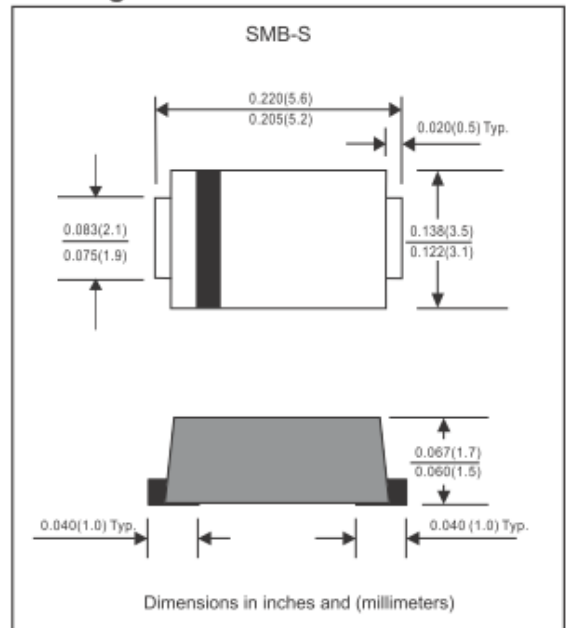
Features

- ◆ Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- ◆ Low profile surface mounted application in order to optimize board space.
- ◆ High current & surge capability.
- ◆ Low forward dropdown voltage
- ◆ Glass passivated chip junction.
- ◆ Lead-free parts meet environmental standards of MIL-STD-19500 /228
- ◆ Suffix "-H" indicates Halogen free parts, ex.ECCER201-BS-H.

Mechanical Data

- ◆ Epoxy : UL94-V0 rated flame retardant
- ◆ Case : Molded plastic, DO-214AA /SMB-S
- ◆ Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- ◆ Polarity : Indicated by cathode band
- ◆ Mounting Position : Any
- ◆ Weight : Approximated 0.072 gram

Package outline



Maximum Ratings and Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	CONDITIONS	Symbol	MIN.	TYP.	MAX.	Unit
Forward rectified current	See Fig.2	I _O			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I _{FSM}			50	A
Reverse current	V _R = V _{RRM} T _J = 25 °C	I _R			5.0	uA
	V _R = V _{RRM} T _J = 125 °C				100	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C _J		25		pF
Storage temperature range		T _{STG}	-65		+175	°C



2.0A Surface Mount Efficient Fast Rectifiers-50-600V

Symbols	VRRM(V) ^{*1}	VRMS(V) ^{*2}	VR(V) ^{*3}	VF(V) ^{*4}	trr(ns) ^{*5}	Operating temperature TJ, (°C)
ECCER201-BS	50	35	50	0.875	25	-55 to+150
ECCER202-BS	100	70	100			
ECCER203-BS	200	140	200			
ECCER204-BS	400	280	400	1.25		
ECCER205-BS	600	420	600	1.75		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@IF=2.0A

*5 Maximum Reverse recovery time, note 1

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Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

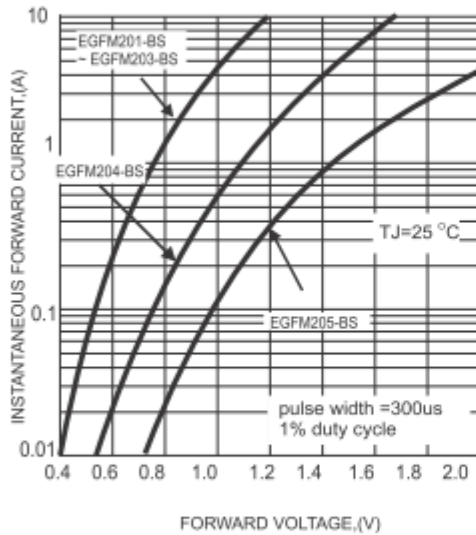


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

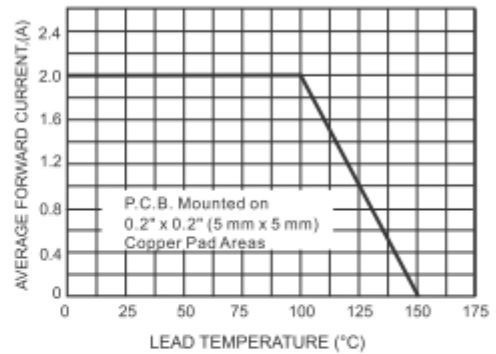
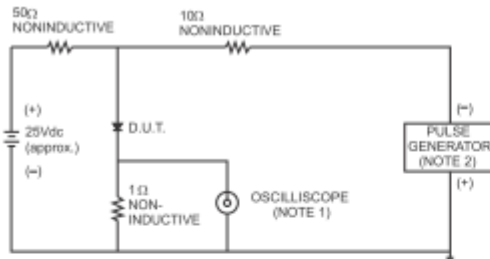


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

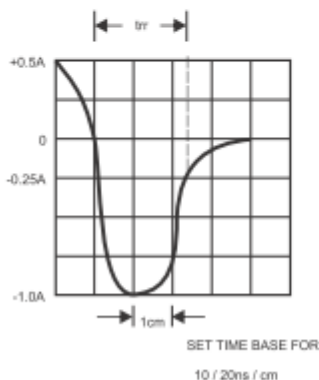


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

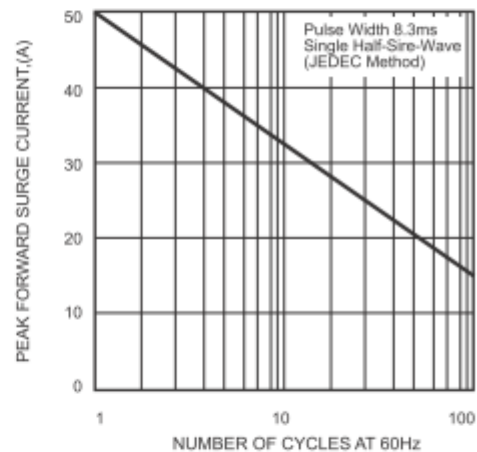
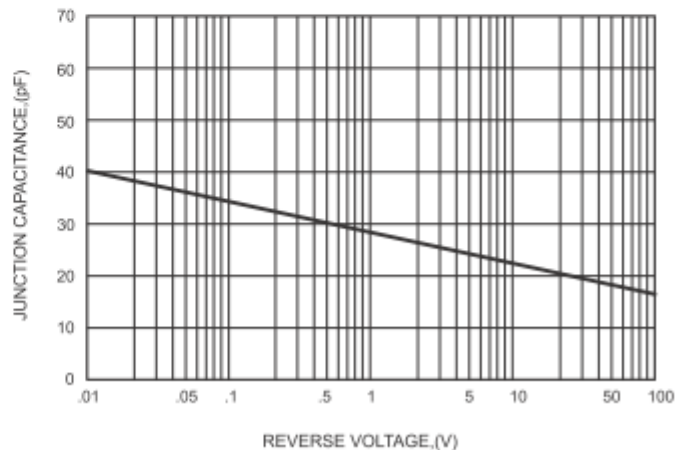




FIG.5-TYPICAL JUNCTION CAPACITANCE



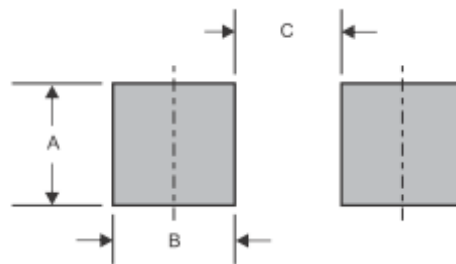
2.0A Surface Mount Efficient Fast Rectifiers-50-600V

Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Type number	Marking code
ECCER201-BS / ECCER201-BS-H	E21
ECCER202-BS / ECCER202-BS-H	E22
ECCER203-BS / ECCER203-BS-H	E23
ECCER204-BS / ECCER204-BS-H	E24
ECCER205-BS / ECCER205-BS-H	E25

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMB-S	0.078 (2.00)	0.059 (1.50)	0.110 (2.80)



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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMB-S	13"	4,000	8.0	8,000	337*337*37	330	350*330*360	64,000	16.9