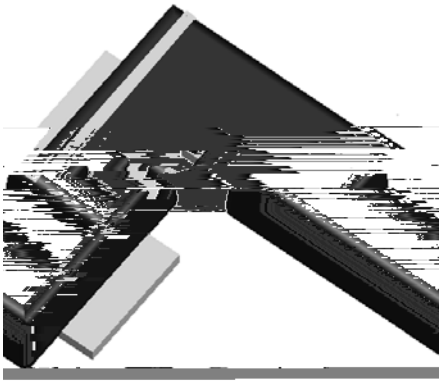
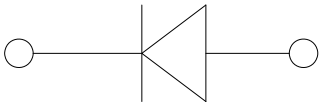
Surface Mount Super Fast Recovery Rectifier



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.



Mechanical Data

- **Package**: SMBF
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	ES2ABF	ES2BBF	ES2CBF	ES2DBF	ES2FBF	ES2GBF	ES2HBF	ES2JBF	ES2KBF
Device marking code			ES2ABF	ES2BBF	ES2CBF	ES2DBF	ES2FBF	ES2GBF	ES2HBF	ES2JBF	ES2KBF
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	V_{RMS}	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	600	800
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	A	2.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25	I_{FSM}	A	50								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25			100								
Current squared time @1ms≤t≤8.3ms Tj=25 Rating of per diode	I^2t	A^2s	10.375								
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	31				17		12		12
Storage temperature	Tstg		-55 ~ +150								
Junction temperature	Tj		-55 ~ +150								

■Electrical Characteristics Ta=25 Unless otherwise specified

	SYMBOL			F	ES2HBF	ES2JBF	ES2KBF
Maximum instantaneous forward voltage drop per diode	VF	V	IFM=21 f ϟM IFM=21 NJ b p Ƙ ş b				
	t_{rr}	ns time	IF=0.5A,IR=1.0A, Irr=0.25A	35			
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	Tj =25	5.0			
			Tj =125	100			

■Thermal Characteristics T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	ES2ABF	ES2BBF	ES2CBF	ES2DBF	ES2FBF	ES2GBF	ES2HBF	ES2JBF	ES2KBF
Typical Thermal Resistance	$R_{\theta J-A}$(1)	/W	60								
	$R_{\theta J-L}$(1)		20								
	$R_{\theta J-C}$(1)		15								

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG1 Io-TL Curve

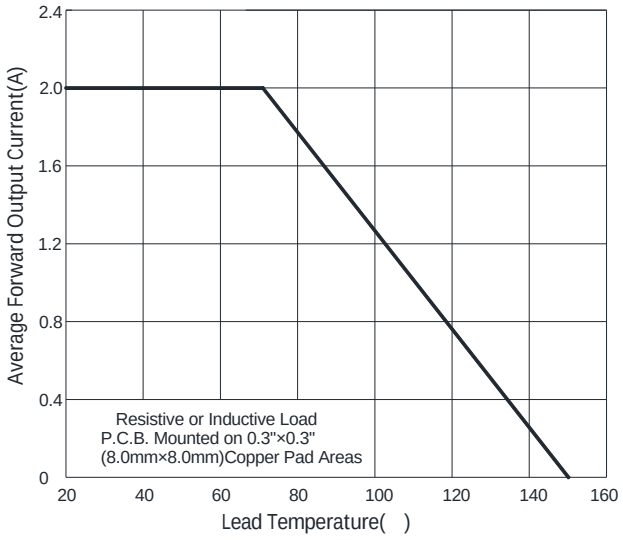
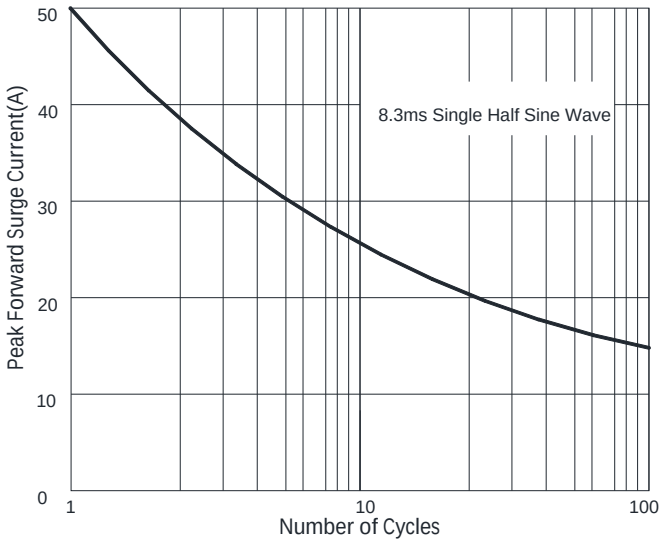


FIG2 Surge Forward Current Capability



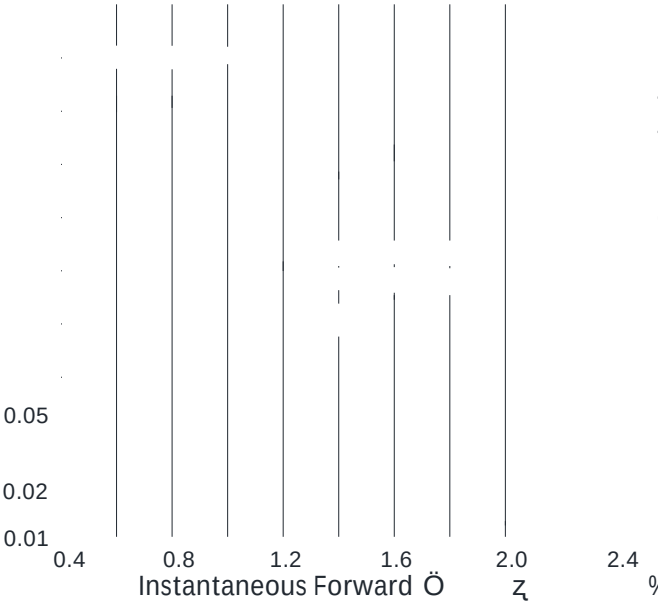
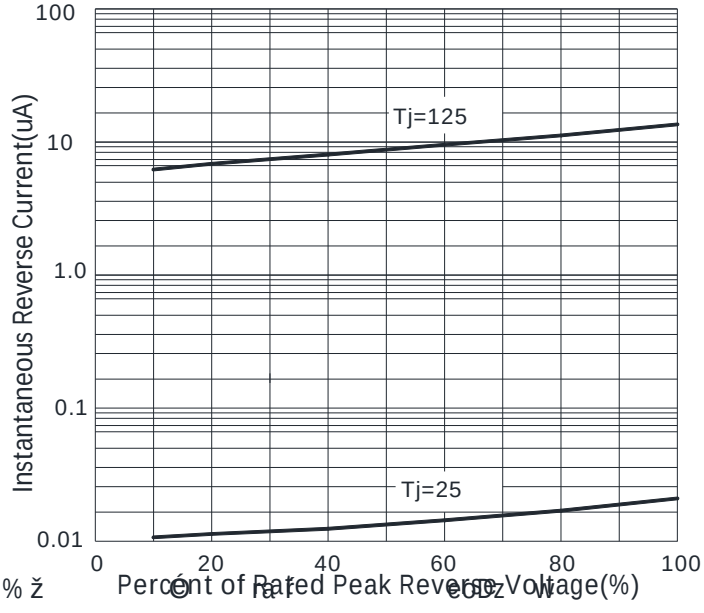
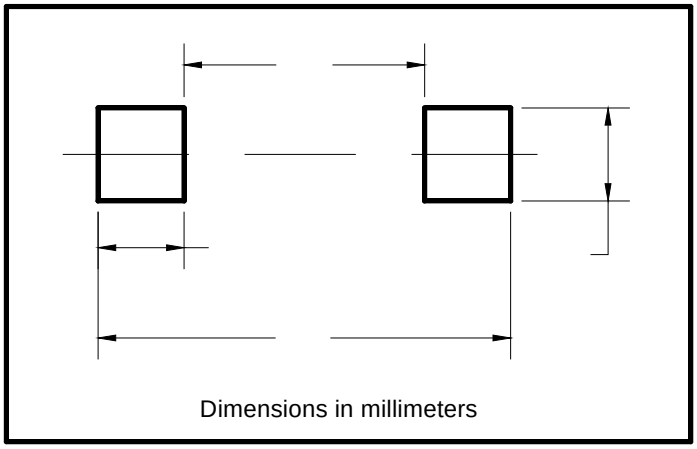


FIG4:Typical Reverse Characteristics



■ Suggested pad layout



Dim	Milimeters
P1	6.20
P2	2.40
Q1	1.90
Q2	2.20