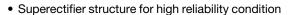


Glass Passivated Ultrafast Rectifier



PRIMARY CHARACTERISTICS						
I _{F(AV)}	2.0 A					
V _{RRM}	50 V to 400 V					
I _{FSM}	75 A					
t _{rr}	50 ns					
V _F	0.95 V, 1.25 V					
T _J max.	150 °C					

FEATURES





- · Cavity-free glass-passivated junction
- Ultrafast reverse recovery time
- · Low forward voltage drop
- · Low leakage current
- Low switching losses, high efficiency
- · High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in high frequency rectification freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

MECHANICAL DATA

Case: DO-204AC, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 55 °C	I _{F(AV)}	I _{F(AV)} 2.0						А
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	75					Α	
Operating and storage temperature range	T _J , T _{STG}	T _J , T _{STG} - 65 to + 150					°C	



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	UNIT
Maximum instantaneous forward voltage	2.0 A		V _F	0.95			1.:	1.25		
Maximum DC reverse current at rated DC		T _A = 25 °C		5.0						μА
blocking voltage		T _A = 125 °C								
Maximum reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 A, 5 A	t _{rr}	50					ns	
Typical junction capacitance	4.0 V, 1	MHz	CJ	70 45				5	pF	

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL EGP20A EGP20B EGP20C EGP20D EGP20F EGP20G U						UNIT	
Typical thermal resistance	R ₀ JA (1)	40						°C/W
Typical thermal resistance	R ₀ JL (1)	15						C/VV

Note

⁽¹⁾ Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
EGP20D-E3/54	0.452	54	4000	13" Diameter paper tape and reel				
EGP20D-E3/73	0.452	73	2000	Ammo pack packaging				
EGP20DHE3/54 (1)	0.452	54	4000	13" Diameter paper tape and reel				
EGP20DHE3/73 (1)	0.452	73	2000	Ammo pack packaging				

Note

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

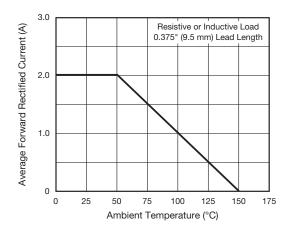


Fig. 1 - Maximum Forward Current Derating Curve

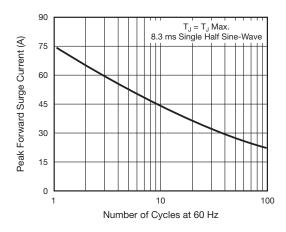


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



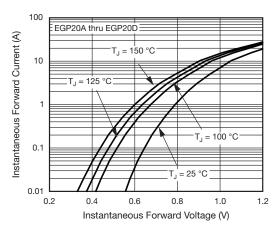
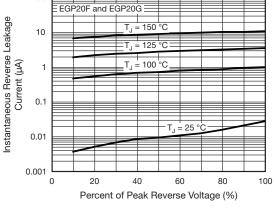


Fig. 3 - Typical Instantaneous Forward Characteristics



100

Fig. 6 - Typical Reverse Leakage Characteristics

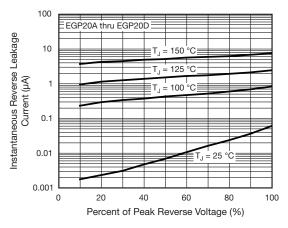


Fig. 4 - Typical Reverse Leakage Characteristics

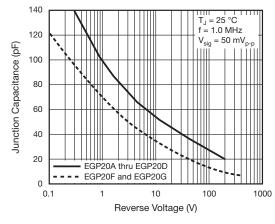


Fig. 7 - Typical Junction Capacitance

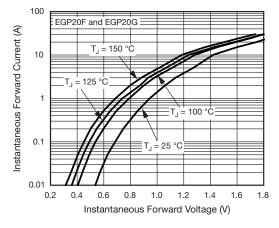


Fig. 5 - Typical Instantaneous Forward Characteristics

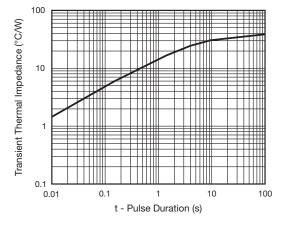
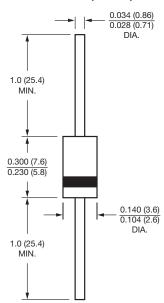


Fig. 8 - Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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