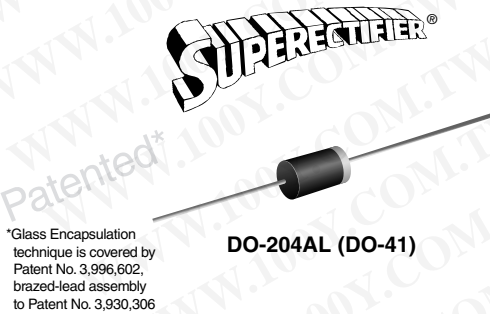


Glass Passivated Ultrafast Rectifier



FEATURES

- Cavity-free glass-passivated junction
- Ideal for printed circuit boards
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AL, molded plastic over glass body
 Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
 E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	600 V
I_{FSM}	30 A
t_{rr}	30 ns
V_F	1.3 V
$T_J \text{ max.}$	175 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum RMS voltage	V_{RMS}	420	V
Maximum DC blocking voltage	V_{DC}	600	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_L = 85$ °C (Fig. 1)	$I_{F(AV)}$	1.0	A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	30	A
Non repetitive peak reverse energy ⁽¹⁾	E_{RSM}	5.0	mJ
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175	°C

Note:

(1) Peak reverse energy measured with 8/20 μ s surge

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Minimum avalanche breakdown voltage	at 100 μA	V _{BR}	600	V
Maximum instantaneous forward voltage	at 1.0 A T _J = 25 °C T _J = 175 °C	V _F	2.5 1.3	V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C T _A = 165 °C	I _R	5.0 150	μA
Max. reverse recovery time	at I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A	t _{rr}	30	ns
Maximum junction capacitance	at 4.0 V, 1 MHz	C _J	45	pF
Maximum reverse recovery current slope	at I _F = 1 A, V _R = 30 V, di _r /dt = -1 A/μs	di _r /dt	7.0	A/μs

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Typical thermal resistance ^(1,2)	R _{θJA} R _{θJL}	70 16	°C/W

Notes:

- (1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads
- (2) Thermal resistance from junction to lead at 0.375" (9.5 mm) lead length with both leads attached to heatsink

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SBYV26C-E3/54	0.339	54	5500	13" diameter paper tape and reel
SBYV26C-E3/73	0.339	73	3000	Ammo pack packaging
SBYV26CHE3/54 ⁽¹⁾	0.339	54	5500	13" diameter paper tape and reel
SBYV26CHE3/73 ⁽¹⁾	0.339	73	3000	Ammo pack packaging

Note:

- (1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

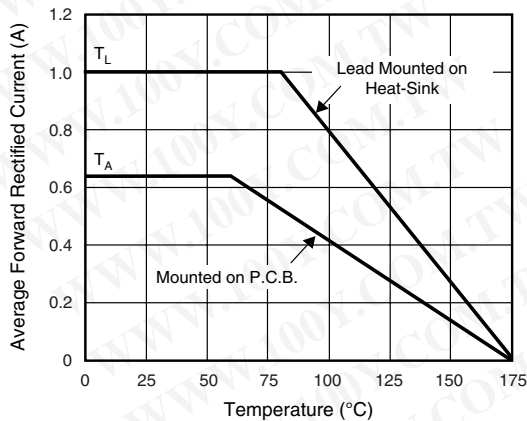


Figure 1. Maximum Forward Current Derating Curve

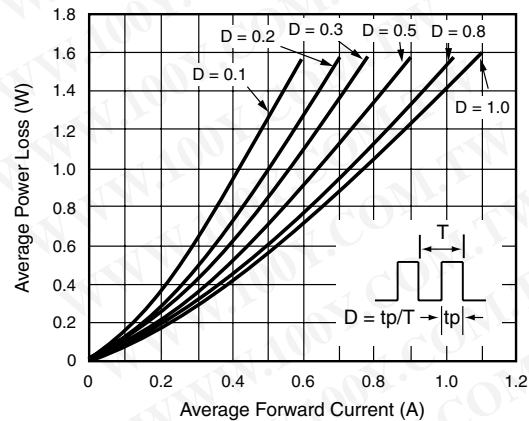


Figure 2. Forward Power Loss Characteristics



勝特力材料 886-3-5753170
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勝特力电子(深圳) 86-755-83298787
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SBYV26C

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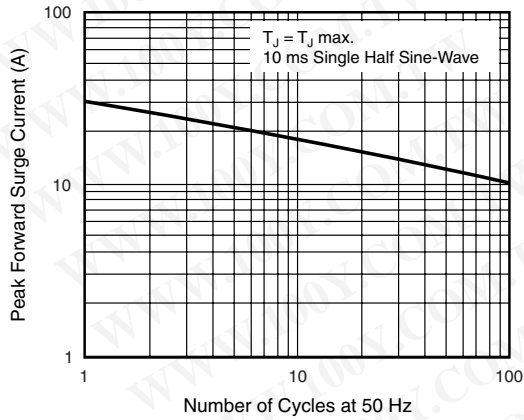


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

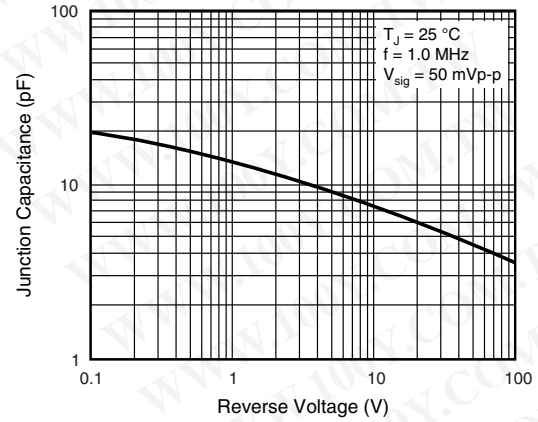


Figure 6. Typical Junction Capacitance

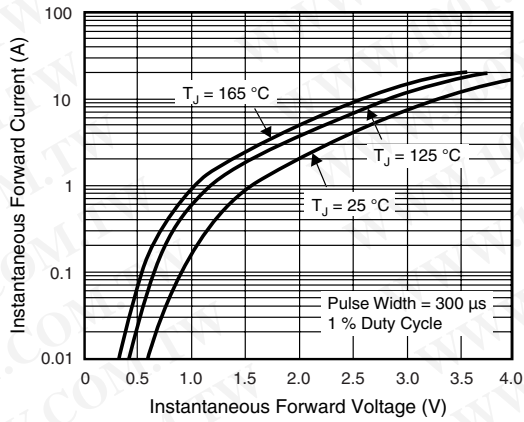


Figure 4. Typical Instantaneous Forward Characteristics

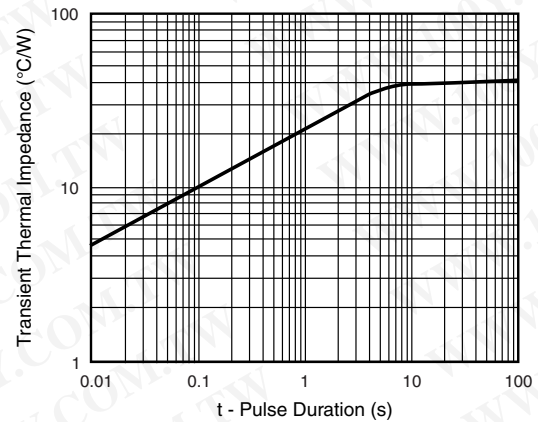


Figure 7. Typical Transient Thermal Impedance

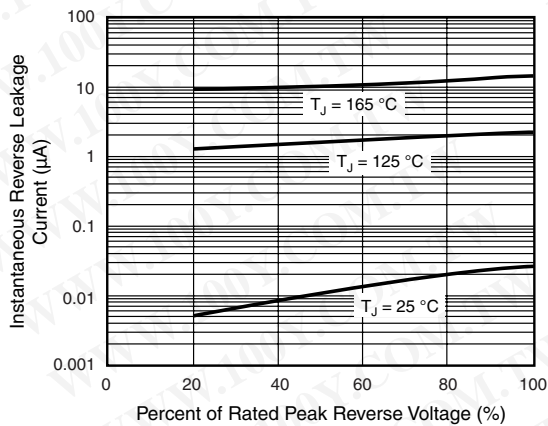


Figure 5. Typical Reverse Leakage Characteristics

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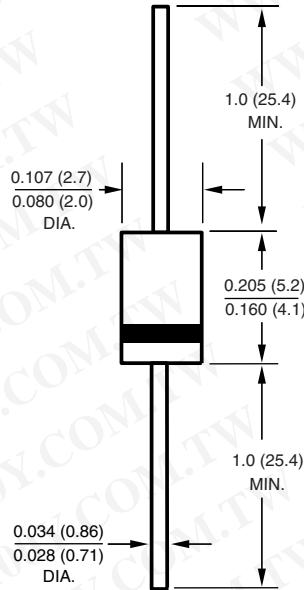
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)





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