SYNSEMI SEMICONDUCTOR

BYV27 SERIES

EPITAXIAL AVALANCHE DIODES

PRV : 50 - 200 Volts
Io : 2.0 Amperes

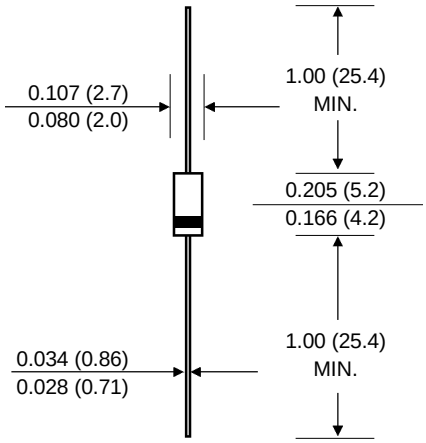
FEATURES :

* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Very fast recovery
* Pb / RoHS Free

MECHANICAL DATA :

* Case : DO-41 Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.335 gram

DO - 41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

RATING	SYMBOL	BYV27-50	BYV27-100	BYV27-150	BYV27-200	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	V
Maximum Continuous Reverse Voltage	V_R	50	100	150	200	V
Min. Reverse Avalanche Breakdown Voltage @ I_R = 0.1 mA	$V_{(BR)R\text{-min.}}$	55	110	165	220	V
Maximum Average Forward Current Ttp = 85 °C (Note 1)	$I_{F(AV)}$	2.0				A
Maximum Non-Repetitive Peak Forward Surge Current	I_{FSM}	50				A
Maximum Repetitive Peak Forward Current	I_{FRM}	15				A
Maximum Forward Voltage at I_F = 3.0 Amps. (Note 2)	V_F	1.07				V
Maximum Reverse Current at V_R = $V_{RRM\ max}$, Tj = 25 °C	I_R	1.0				µA
Maximum Reverse Current at V_R = $V_{RRM\ max}$, Tj = 165 °C	$I_{R(H)}$	150				µA
Maximum Reverse Recovery Time (Note 3)	Trr	25				ns
Thermal Resistance - Junction to tie-point (Note 1)	$R_{th\ j\text{-}tp}$	46				K / W
Junction Temperature Range	T_J	- 65 to + 175				°C
Storage Temperature Range	T_{STG}	- 65 to + 175				°C

Notes :

(1) Lead Length 10 mm.
(2) Measured under pulse conditions to avoid excessive dissipation.
(3) Switched from I_F = 0.5A to I_R = 1A.

RATING AND CHARACTERISTIC CURVES (BYV27 SERIES)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC

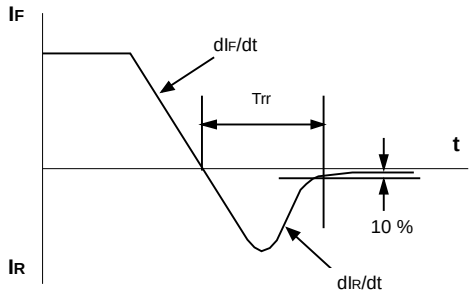


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

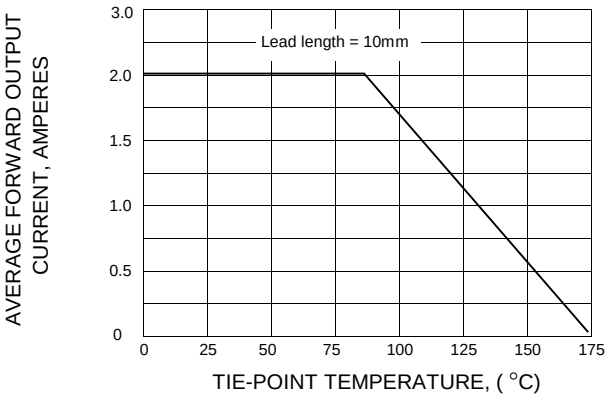


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

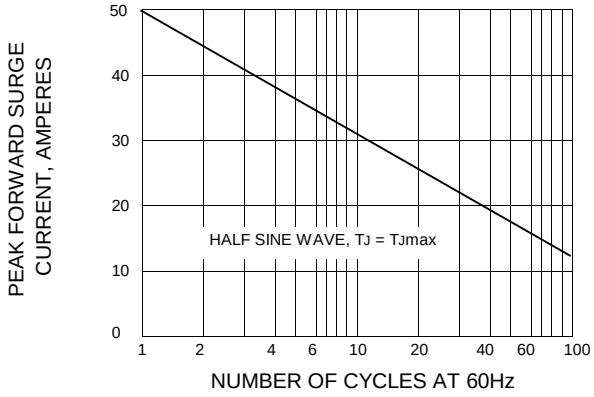


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

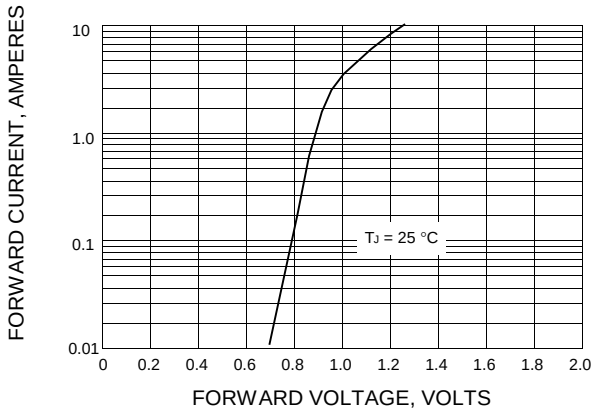


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

