SEMICONDUCTOR

STD35160

GLASS PASSIVATED GENERAL PURPOSE RECTIFIER

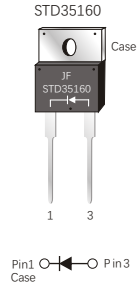
Reverse Voltage - 1600 Volts
Forward Current -35.0Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated Chip
- Low VF,Low power loss
- Flexible solution for reliable AC power rectification
- High surge capability
- High temperature soldering guaranteed:260℃/10s at terminals
- Component in accordance to RoHS 2015/863/EU

RoHS COMPLIANT

TO-220AC



Mechanical Data

- Case: JEDEC TO-220AC
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

Typical Applications

- Input Rectification
- Bypass Diode
- Polarity Reverse Protection
- EV / HEV Battery Chargers

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	35A
V_{RRM}	1600V
I_{FSM}	435A
V_F at I_F=35.0A(150℃)	1.06V
I_R	2μA
T_J(MAX)	150℃
Circuit configuration	Single

Maximum Ratings

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1600	V
Maximum average forward rectified current, D=0.5, Tc=118℃ (see fig.1)	$I_{F(AV)}$	35	A
Surge non repetitive forward current tp=10ms sinusoidal	I_{FSM}	435	A
Maximum operating junction temperature	T_J	150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

Electrical Characteristcs (TA=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	I_R=10μA		V_{BR} V_R	1600	-	-	V
Instaneous forward voltage	T_J=25℃	I_F=5A	V_F 1)	-	0.87	-	V
		I_F=25A		-	1.06	-	
		I_F=35A		-	1.12	1.25	
	T_J=150℃	I_F=5A		-	0.73	-	
		I_F=25A		-	0.97	-	
		I_F=35A		-	1.06	-	
Reverse current	T_J=25℃	V_R=1200V	I_R 2)	-	-	2.0	μA
	T_J=125℃			-	-	200	μA
	T_J=150℃			-	-	800	
Junction capacitance	4V,1MHz		C_J	-	78	-	pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

Thermal Characteristcs

Parameter	Symbol	STD35120	Unit
Typical thermal resistance Junction to case	$R_{\theta JC}$	0.9	℃/W
Typical thermal resistance 3) Junction to ambient	$R_{\theta JA}$	62	

3)When mounted on 1" square (650 mm2) PCB of FR-4

Availabale Pack Information

Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Tube Length (mm)	Inner Box Number	Tube Number Per A Inner Box	Part Number Per A Tube	Quantity(carton) (K)
STD35160- TO-220AC	Tube	565×225×170	548×151×37	540	5	20	50	5

Fig.3-Forward Current Derating Curve

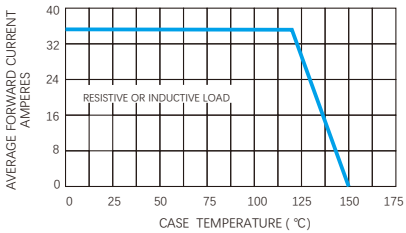


Fig.4-Maximum Non-repetitive Peak Forward Surge Current

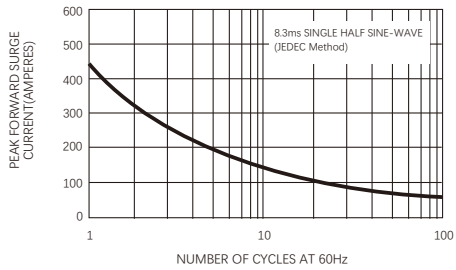


Fig.5-Typical Instantaneous Forward Characteristics

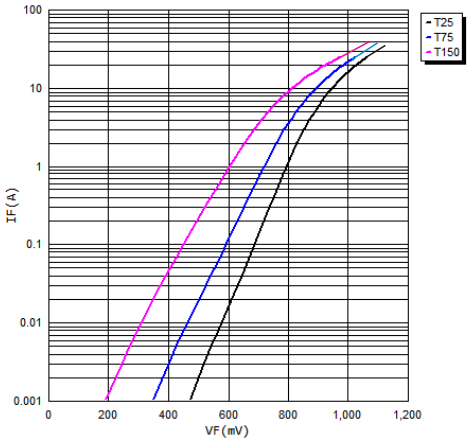


Fig.6-Typical Reverse Characteristics

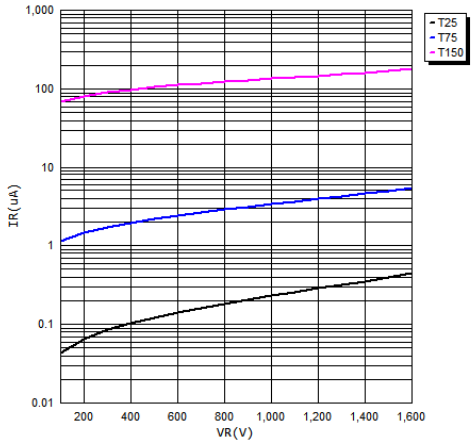
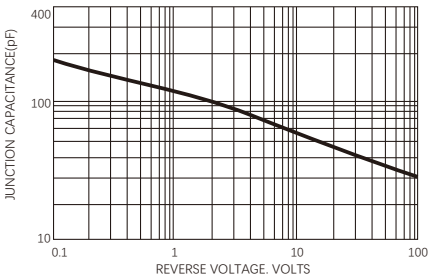
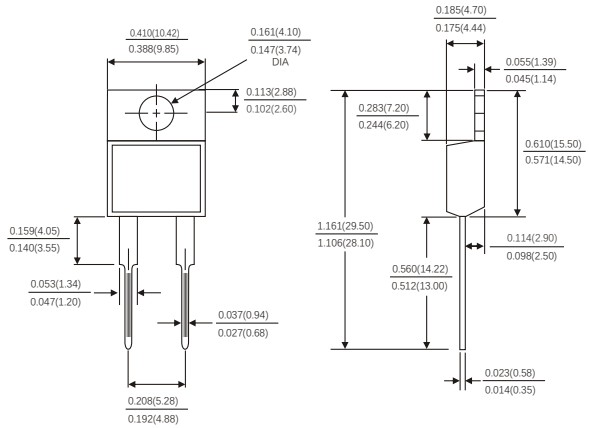


Fig.7-Typical Junction Capacitance



TO-220AC



Dimensions in inches and (millimeters)

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