LITE-ON SEMICONDUCTORS

STPR1040CTW

SUPER FAST
GLASS PASSIVATED RECTIFIER

REVERSE VOLTAGE – 400 Volts
FORWARD CURRENT – 10 Amperes

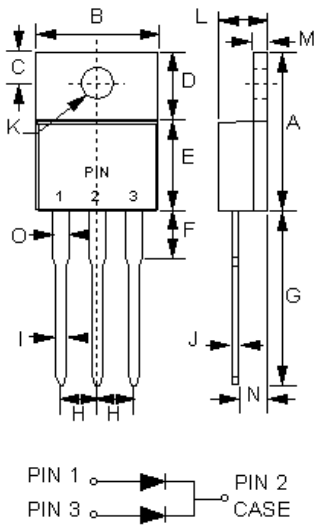
FEATURES

- Glass passivated chip
- Superfast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Qualified according to AEC-Q101 Rev_D

MECHANICAL DATA

- Case: JEDEC TO-220AB
- Case Material: Plastic material, UL flammability classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating
- Polarity indicator: As marked on the body
- Weight: 0.072 ounces, 2.0275 grams(Approximate)
- Component in accordance to RoHs 2002/95/EC
- ESD capability : HBM_8KV (JESD22-A114)
- Maximum mounting torque = 0.5 N.m (5.1 Kgf.cm)

TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.40	15.20
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	-	4.20
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.30	0.64
K	3.53 ⌀	4.09 ⌀
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.70
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	STPR1040CTW	UNIT
Device marking code	Note	STPR1040CTW	---
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	400	V
Average Rectified Output Current See FIG.1	I_F	10	A
Peak Forward Surge Current 8.3ms single half sine-wave (Per leg)	I_{FSM}	80	A
Storage temperature range	T_{STG}	-55 to +150	°C
Operating junction temperature range	T_J	-55 to +150	°C

PARAMETER	TEST CONDITIONS		SYMBOL	Min.	Max.	UNIT
Breakdown voltage	IR=10uA	Tj=25°C	V_B	400	---	V
Forward Voltage (1)	IF=5A	Tj=25°C Tj=125°C	V_F	--- ---	1.30 1.20	V
	IF=10A	Tj=25°C Tj=125°C		--- ---	1.50 1.40	
Leakage Current	VR=400V	Tj=25°C Tj=100°C	I_R	--- ---	10 250	uA
Reverse recovery time	IF= 0.5A Irr= 0.25A IR =1.0A	Tj=25°C	t_{rr}	---	35	ns
Junction Capacitance	VR=4V Freq.=1MHz	Tj=25°C	Cj	---	50	pF

THERMAL CHARACTERISTIC	SYMBOL	Typical	UNIT
Typical thermal resistance_Junction to Case (2)	$R_{\Theta JC}$	4.2	°C/W
Typical thermal resistance_Junction to Lead (2)	$R_{\Theta JL}$	6.0	°C/W

REV.-4, Oct-2019, KTGC43

Note :
(1) 300us Pulse Width, 2% Duty Cycle.
(2) Thermal Resistance test performed in accordance with JESD-51. $R_{\Theta JL}$ is measured at the PIN 2, $R_{\Theta JC}$ is measured at the top centre of body.

RATING AND CHARACTERISTIC CURVES
STPR1040CTW

FIG.1- FORWARD CURRENT DERATING CURVE

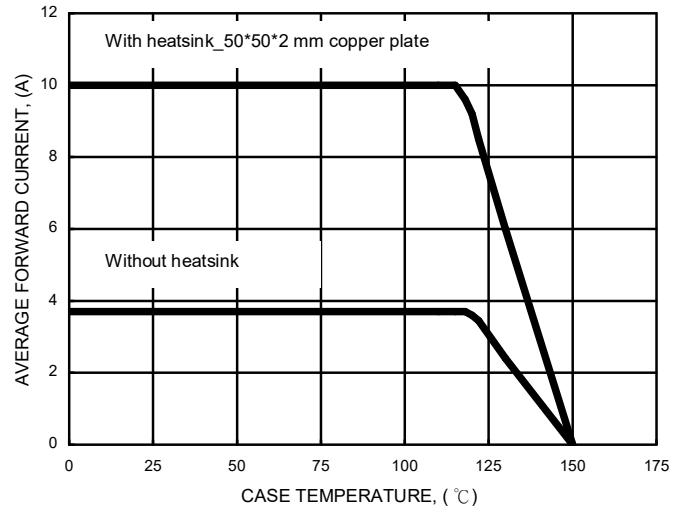


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

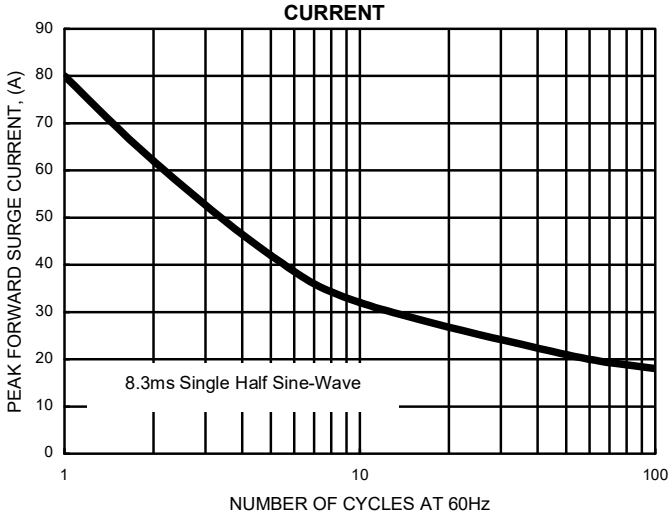


FIG.3- TYPICAL FORWARD CHARACTERISTICS

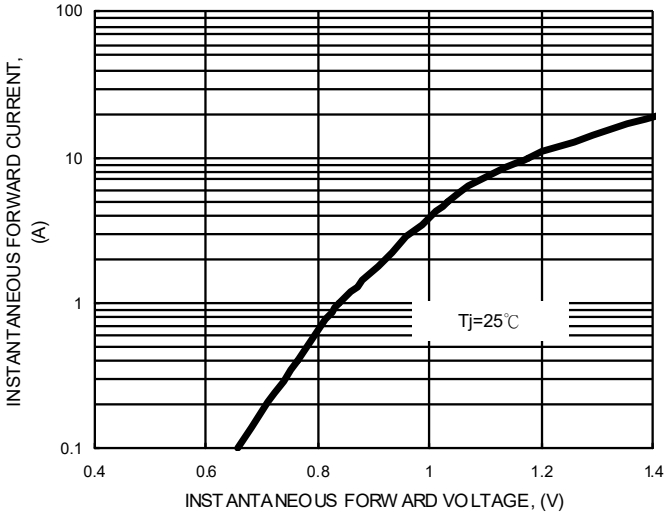


FIG.4- TYPICAL JUNCTION CAPACITANCE

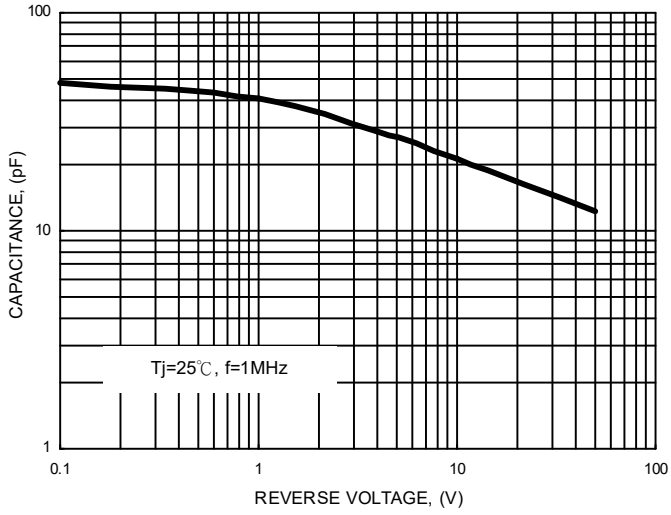
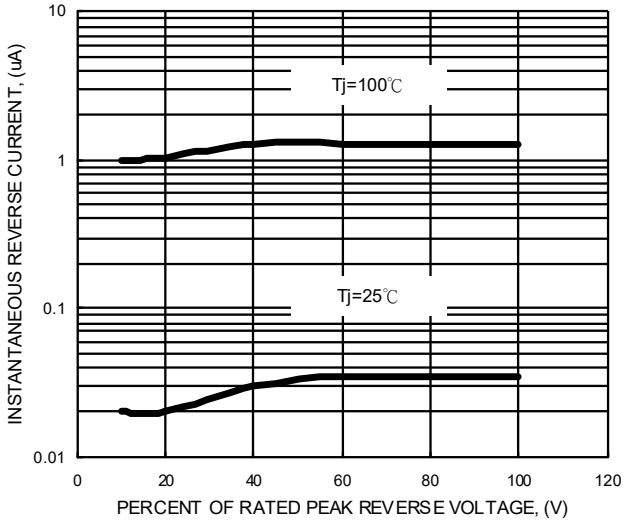


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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