

STPR1640CT

**SUPER FAST
GLASS PASSIVATED RECTIFIERS**

**REVERSE VOLTAGE – 400 Volts
FORWARD CURRENT – 16 Amperes**

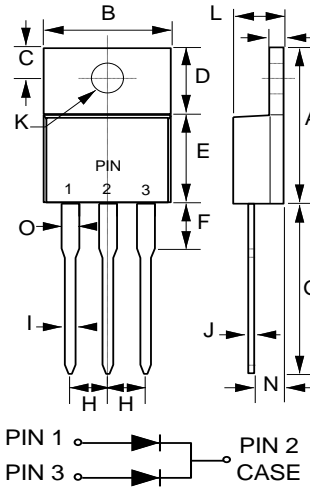
FEATURES

- Glass passivated chip
- Super fast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- High surge capacity
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

MECHANICAL DATA

- Package: TO-220AB molded plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free"
- Polarity: As marked on the body
- Weight: 0.072 ounces, 2.0275 grams (Approximate)
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

TO-220AB



TO-220AB		
DIM	MIN	MAX
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	8.26	9.28
F	--	6.35
G	12.70	14.73
H	2.29	2.79
I	0.51	1.14
J	0.30	0.64
K	3.53φ	4.09φ
L	3.56	4.83
M	1.14	1.40
N	2.03	2.92
O	1.14	1.70

All dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	400	V
Maximum DC blocking voltage	V_{DC}	400	V
Maximum Average rectified output current	$I_{(AV)}$	16	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	I_{FSM}	90	A
Operating and Storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage (Note 3)	$I_F=8A$	V_F	$T_J=25^\circ C$	1.30
			$T_J=125^\circ C$	1.20
	$I_F=16A$		$T_J=25^\circ C$	1.50
	$T_J=125^\circ C$		1.40	
Maximum DC Reverse current at Rate DC Blocking Voltage	$T_J=25^\circ C$ $T_J=100^\circ C$	I_R	10 500	uA
Typical junction capacitance (Note 4)		C_j	80	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance	R_{thJC}	3.0	°C/W

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	MAX	UNIT
Reverse recovery time	$I_F=0.5A, I_{rr}=0.25A, I_R=1.0A$	T_{rr}	35	nS

- Notes:**
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. 300us pulse width, 2% duty cycle.
 4. Measured at 1.0MHz and applied reverse voltage of 4.0 VDC.

RATING AND CHARACTERISTIC CURVES
STPR1640CT

FIG.1- FORWARD CURRENT DERATING CURVE

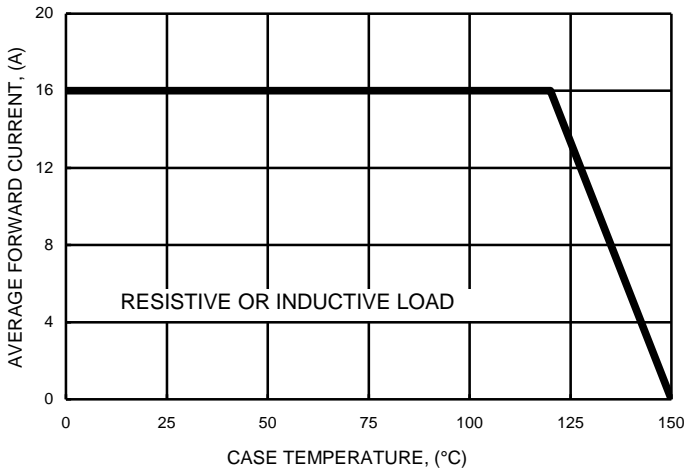


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

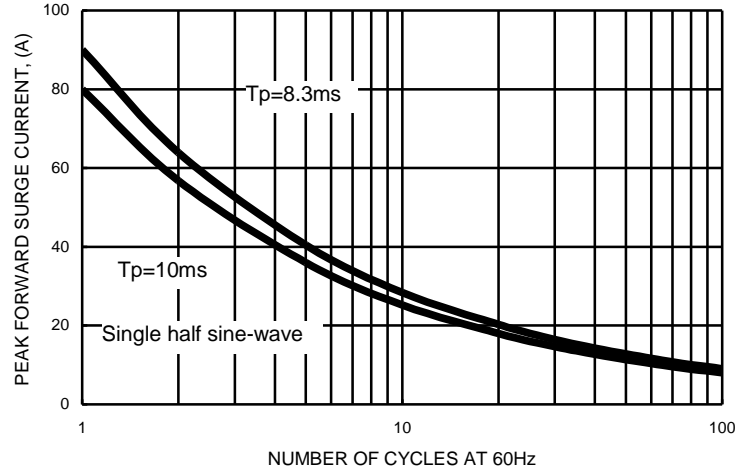


FIG.3- TYPICAL FORWARD CHARACTERISTICS

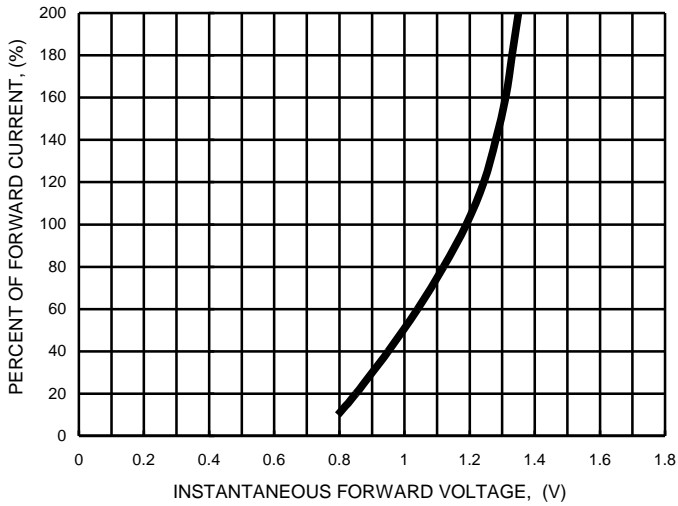


FIG.4- TYPICAL JUNCTION CAPACITANCE

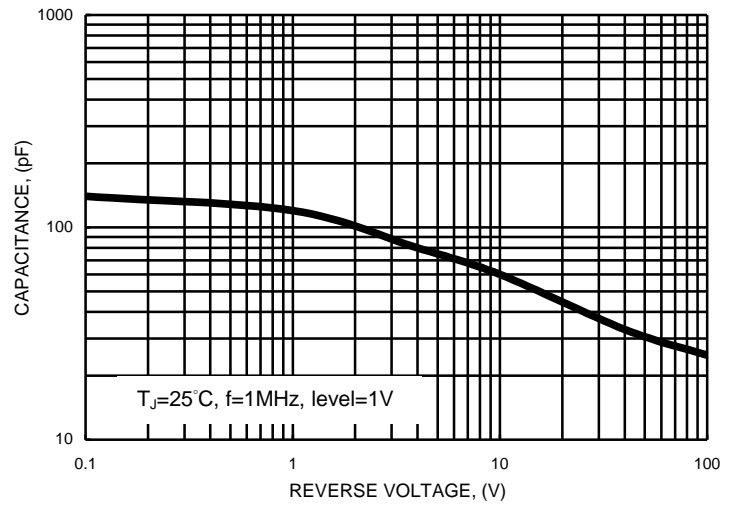
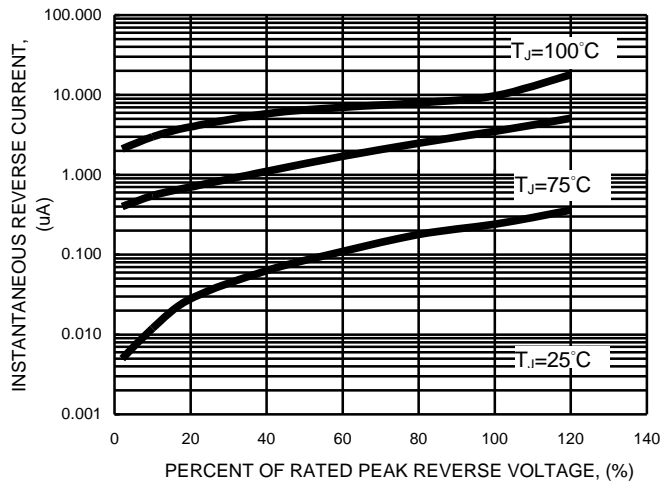


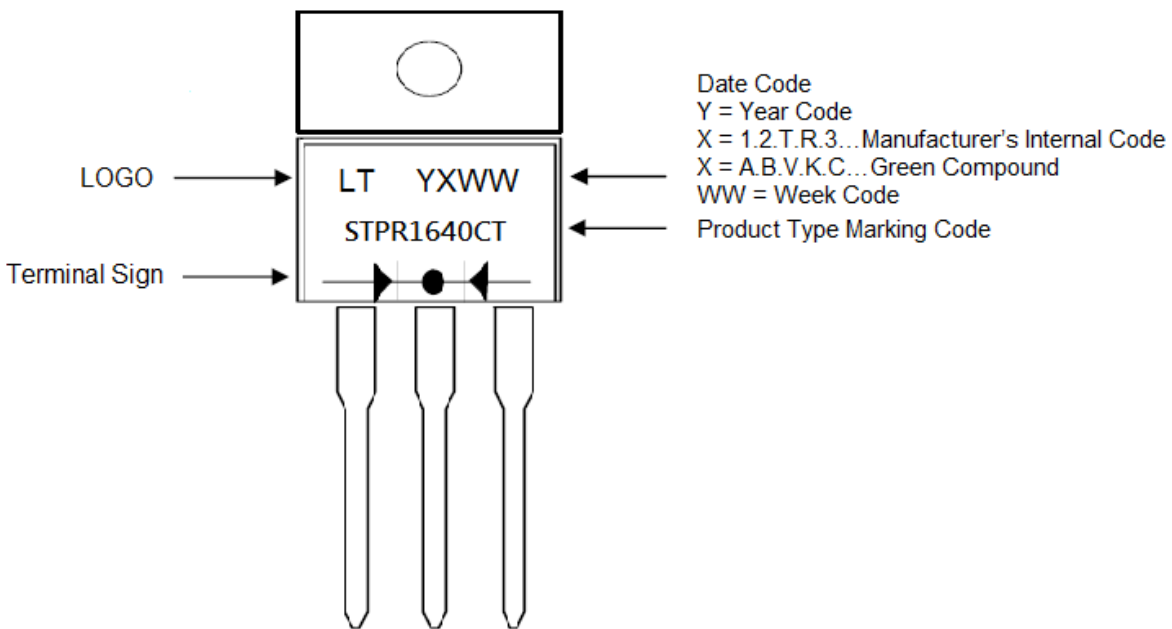
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
STPR1640CT	TO-220AB	50	Tube

Marking Information :



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