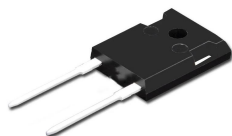
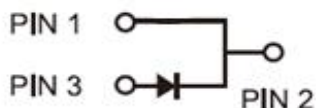


## ULTRAFAST RECOVERY RECTIFIERS



TO-247AC



### FEATURES

- High speed switching capability
- High current capability
- High forward surge capability
- Low power losses. High efficiency
- High reliability
- For use in low voltage, high frequency inverters



**RoHS**  
COMPLIANT

### APPLICATIONS

Fast recovery diode, mainly used for rectification, used in high-power equipment, The express and ultrafast recovery diodes are suitable for high frequency and ultra high frequency circuits, respectively

### Primary Characteristic

$I_O$	30A
$V_{RRM}$	600V
$I_{FSM}$	390A
$V_F$	1.14V
$T_{rr}$	42ns
$T_{j,max}$	175°C

### MECHANICAL DATA

- **Case:** Molded plastic
- **Polarity:** As marked
- **Mounting Position:** Any
- **Molded Plastic:** UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106

### Maximum Ratings at $T_a=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	600	V
Working Peak Reverse Voltage	$V_{RWM}$	600	V
Maximum DC Blocking Voltage	$V_{DC}$	600	V
Maximum Average Forward Rectified Current	$I_O$	30	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	390	A
Operating Temperature Range	$T_J$	175	°C
Storage Temperature Range	$T_{STG}$	-50 to +150	°C
Typical Thermal Resistance (Note1) TO-220AC, TO-263 TO-220FAC	$R_{\theta JC}$	2 4	°C/W

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

### Electrical Characteristics unless otherwise specified

Characteristics		Symbol	Value		Unit
Forward Voltage Drop(Note2)		V <sub>F</sub>	Typ.	Max.	V
at I <sub>F</sub> =10A	TA=25°C		1.03	-	
	TA=125°C		0.86	-	
at I <sub>F</sub> =15A	TA=25°C		1.10	-	
	TA=125°C		0.96	-	
at I <sub>F</sub> =30A	TA=25°C		1.27	1.60	
	TA=125°C		1.14	-	
Maximum Reverse Current at V <sub>R</sub> =600V	TA=25°C	I <sub>R</sub>	0.1	2	μA
	TA=125°C		10	-	μA
Maximum Reverse Recovery Time at I <sub>F</sub> =0.5A, I <sub>o</sub> =1A.		T <sub>rr</sub>	42	55	ns

Note2: Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

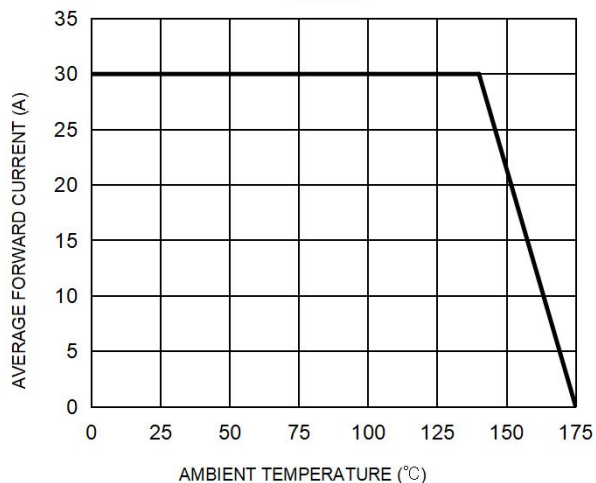


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

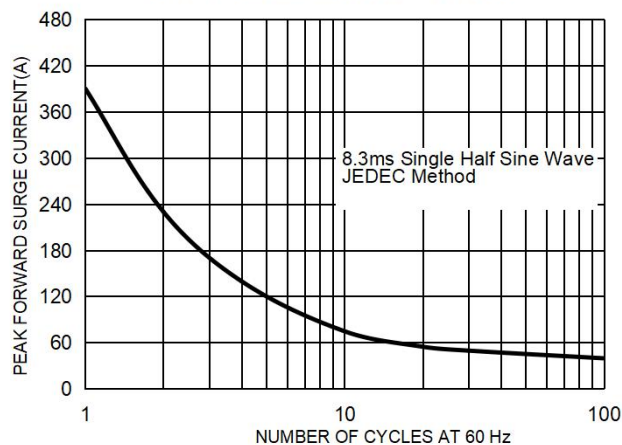


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

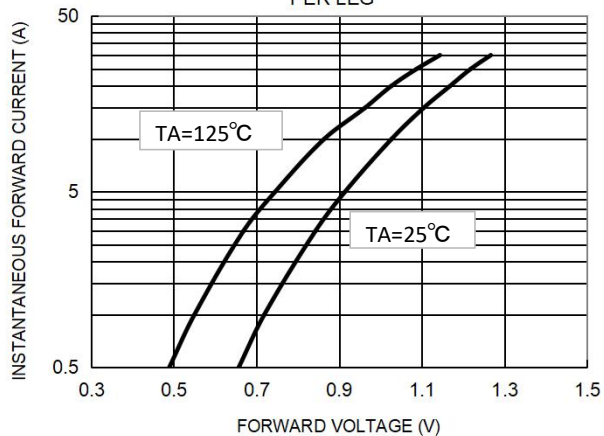
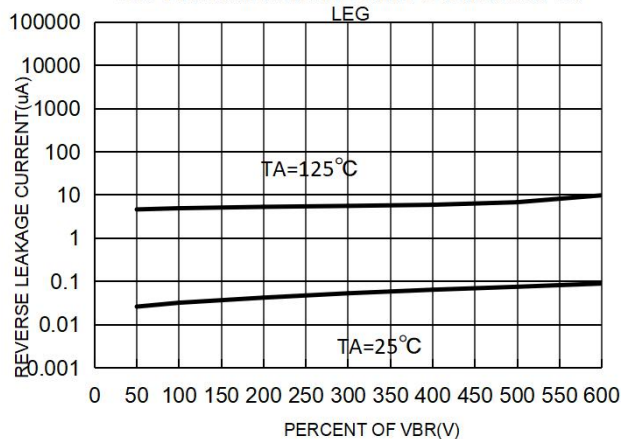


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



TO-247AC

