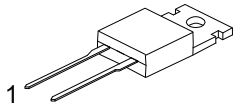
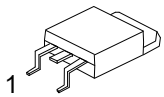
SUPERFAST RECOVERY RECTIFIER



TO-220-2



TO-263

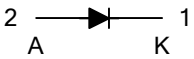
■ DESCRIPTION

The UTC **USR860** is a superfast recovery rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop, low leakage, high current capability and high surge capability etc. These characteristics make it ideal for heavy duty applications that demand long term reliability. also fit into auxiliary functions such as snubber, bootstrap, and demagnetization applications.

■ FEATURES

* Ultrafast, soft recovery
* Very low conduction and switching losses
* High frequency and or high pulsed current operation
* High reverse voltage capability
* High junction temperature

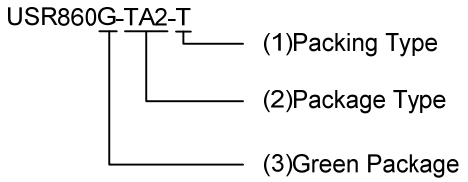
■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USR860L-TA2-T	USR860G-TA2-T	TO-220-2	K	A	-	Tube
USR860L-TQ2-T	USR860G-TQ2-T	TO-263	A	K	A	Tube
USR860L-TQ2-R	USR860G-TQ2-R	TO-263	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

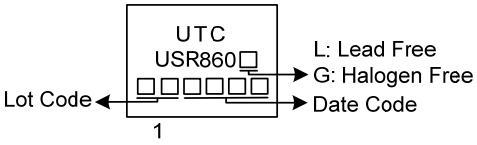


(1) T: Tube, R: Tape Reel

(2) TA2: TO-220-2, TQ2: TO-263

(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Blocking Voltage	V_R	600	V
Working Peak Reverse Voltage	V_{RWM}	600	V
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Average Rectified Forward Current Per Total Device, (Rated V_R), T_C=150°C	$I_{F(AV)}$	8	A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20kHz), T_C=150°C	I_{FM}	16	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz)	I_{FSM}	100	A
Operating Junction Temperature	T_J	-65 ~ +175	°C
Storage Temperature	T_{STG}	-65 ~ +175	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	73	°C/W
Junction to Case	θ_{JC}	3	°C/W

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage (Note)	V_{FM}	I_F=8.0A, T_C=25°C			1.8	V
		I_F=8.0A, T_C=150°C			1.3	V
Instantaneous Reverse Current (Note)	I_{RM}	Rated DC Voltage, T_J=25°C			5.0	μA
		Rated DC Voltage, T_J=150°C			250	μA
Reverse Recovery Time	t_{RR}	I_F=1.0A, di/dt=50A/μs			35	ns

Note: Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.