



# ES3A THRU ES3J

**DIODE**

## 3.0AMP SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER

■ DESCRIPTION

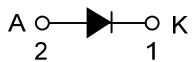
The UTC **ES3A THRU ES3J** is a surface mount super fast rectifier, it uses UTC's advanced technology to provide customers with high forward surge current and low reverse leakage, etc.

The UTC **ES3A THRU ES3J** is suitable for surface mounted applications.

■ FEATURES

- \* Low reverse leakage
- \* High forward surge current capability

■ SYMBOL



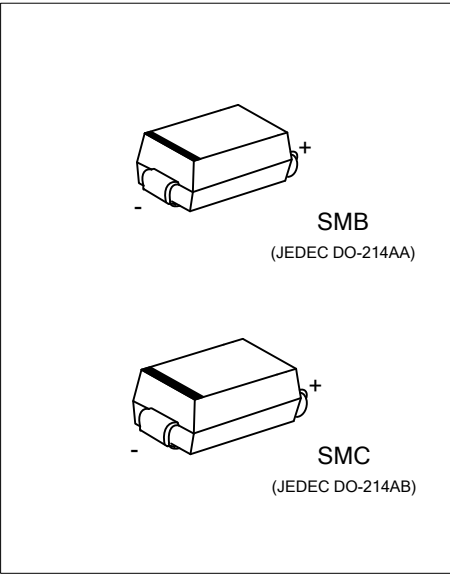
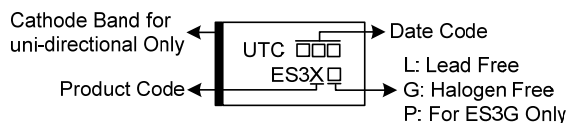
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
ES3XL-SMB-R	ES3XG-SMB-R	SMB	K	A	Tape Reel
ES3XL-SMC-R	ES3XG-SMC-R	SMC	K	A	Tape Reel
ES3GL-SMB-R	ES3GP-SMB-R	SMB	K	A	Tape Reel
ES3GL-SMC-R	ES3GP-SMC-R	SMC	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>ES3XG-SMB-R</p>	<p>(1) R: Tape Reel                  (2) SMB: SMB, SMC: SMC                  (3) G: Halogen Free and Lead Free, L: Lead Free                  P: Halogen Free and Lead Free For ES3G only</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	RATINGS							UNIT
		ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Average Rectified Output Current $T_A=75^\circ\text{C}$	$I_o$	3.0							A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	100							A
Operating Junction Temperature Range	$T_J$	-55 ~ +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150							$^\circ\text{C}$

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	$\theta_{JA}$	47	$^\circ\text{C/W}$

Note: P.C.B. mounted with 0.2×0.2" (5.0×5.0mm) copper pad areas.

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Ratings at 25°C ambient temperature unless otherwise specified.

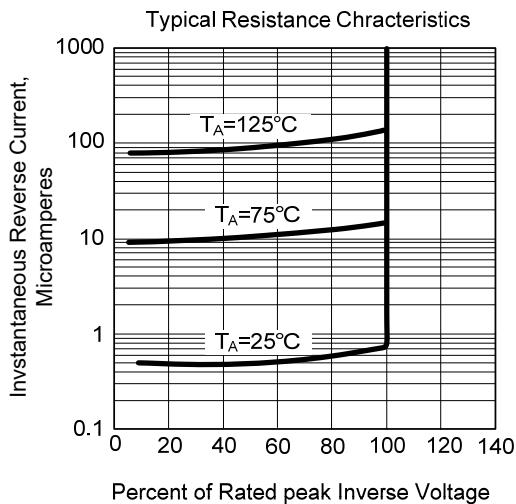
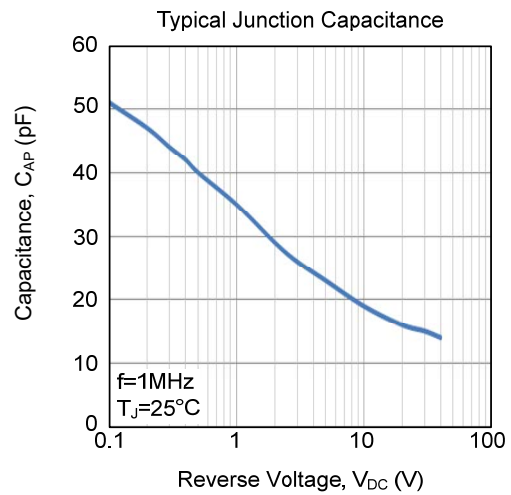
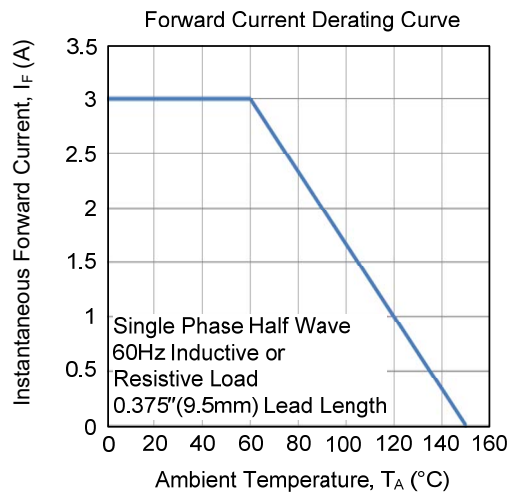
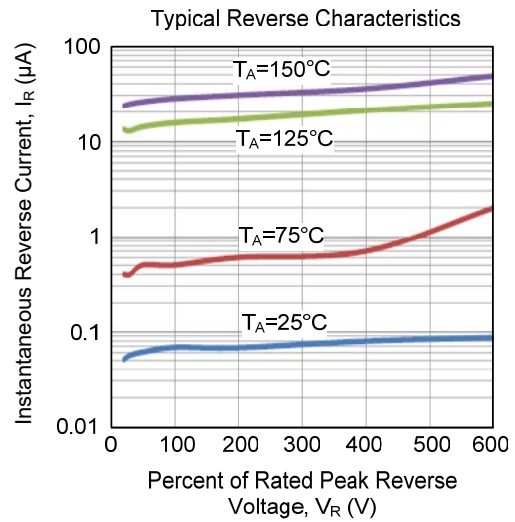
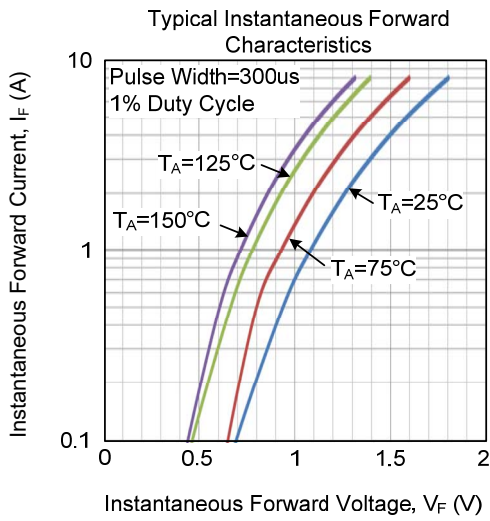
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS							UNIT
			ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	
Forward Voltage	$V_{FM}$	$I_F=3.0\text{A}$	0.95	0.95	0.95	0.95	1.25	1.25	1.7	V
Peak Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A=25^\circ\text{C}$	5.0							$\mu\text{A}$
		$T_A=100^\circ\text{C}$	100							$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$		35							ns
Junction Capacitance (Note 2)	$C_J$		45							pF

Notes: 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## TYPICAL CHARACTERISTICS



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