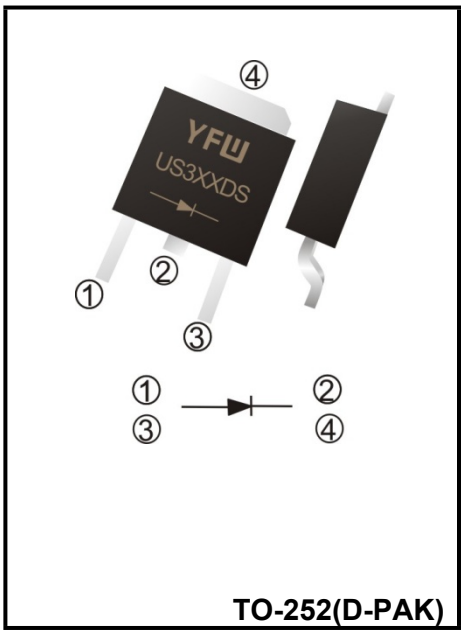
US301DS THRU US310DS TO-252

Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage - 100 to 1000 V

Forward Current - 3 A



FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: TO-252(D-PAK)
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.32g /0.011oz

Maximum Ratings and characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	US301DS	US302DS	US304DS	US306DS	US308DS	US310DS	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T_c = 125 °C	$I_{F(AV)}$	3						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90						A
Maximum Instantaneous Forward Voltage at 3A	V_F	0.95		1.25	1.65			V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a=125 °C	I_R	1 300						μA
Maximum Reverse Recovery Time (1)	Trr	50			75			nS
Typical Junction Capacitance f=1MHz,4V DC	Cj	50			PF			
Typical Thermal Resistance (2)	$R_{\theta JC}$	25						°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						°C

(1) Measured with I_F=0.5A,I_R=1A,I_n=0.25A

(2) P.C.B. mounted with 10cm X 10cmX1mm copper pad areas.

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Fig.1 Maximum Average Forward Current Rating

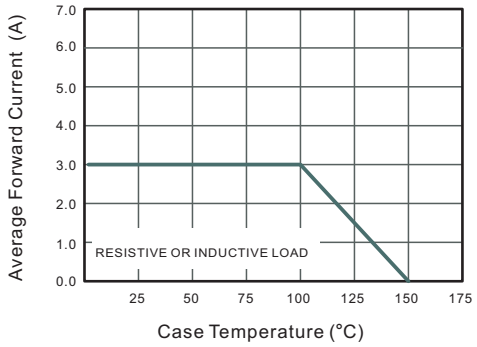


Fig.2 Typical Reverse Characteristics

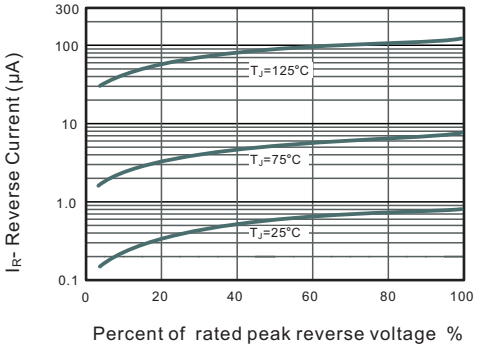


Fig.4 Typical Forward Characteristics

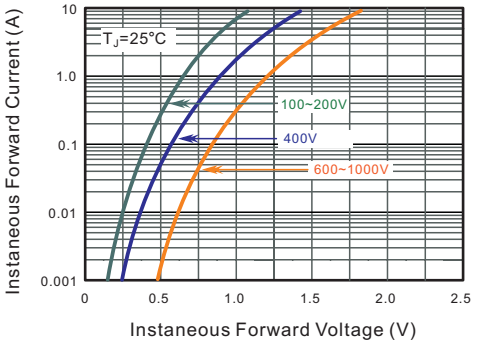


Fig.4 Typical Junction Capacitance

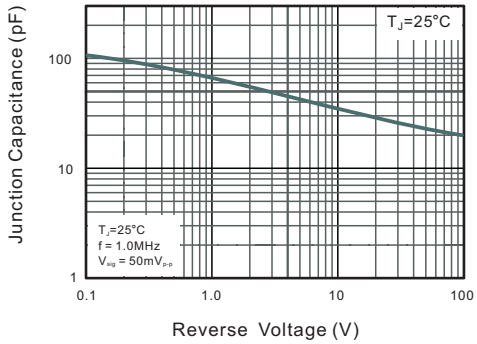
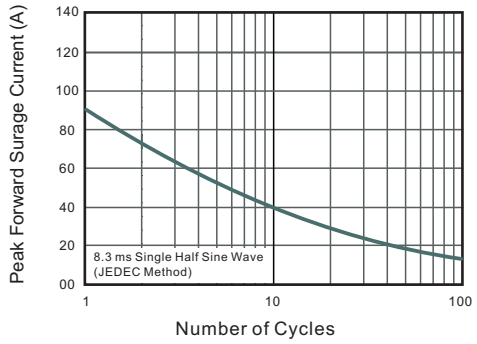
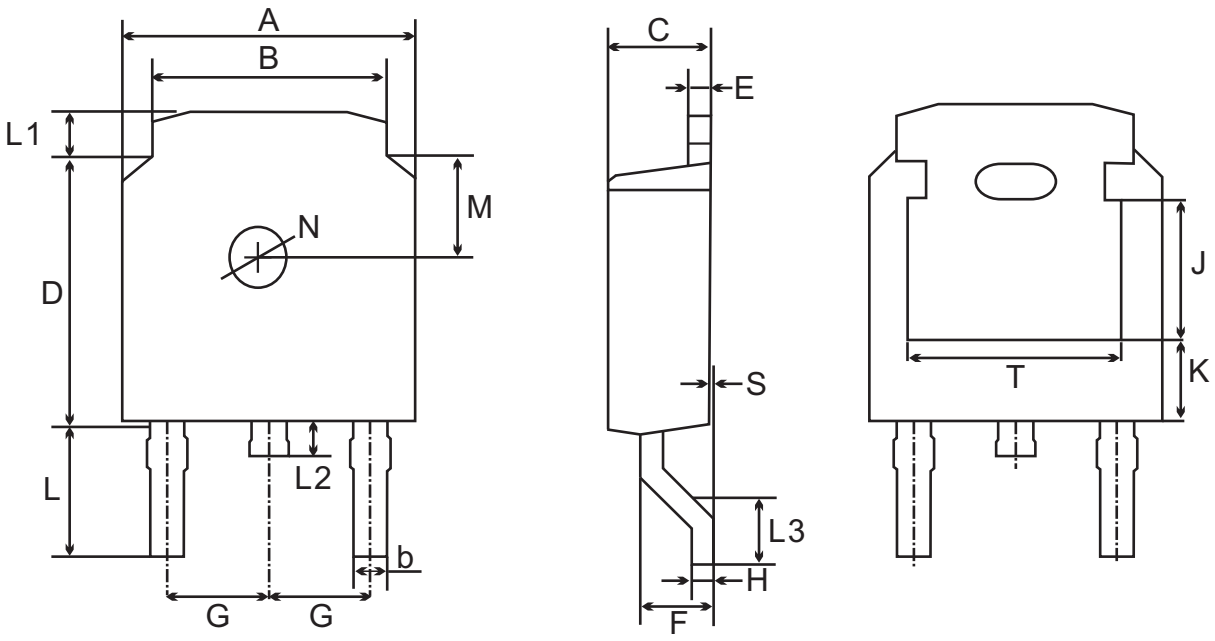


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current



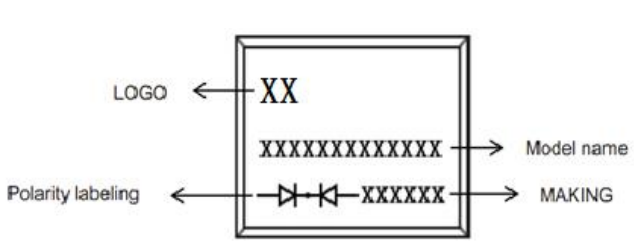
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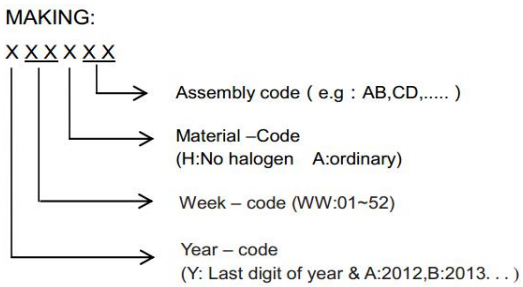
Package Outline TO-252(D-PAK)



UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	K	T
mm	max	6.7	5.5	0.8	2.5	6.3	0.6	1.8	2.29 TYPICAL	0.55	3.1	1.2	1.0	1.75	0.1	1.8 TYPICAL	1.3 TYPICAL	3.16 ref.	1.80 ref.	4.83 ref.
	min	6.3	5.1	0.3	2.1	5.9	0.4	1.3		0.45	2.7	0.8	0.6	1.40	0.0					
mil	max	264	217	31	98	248	24	71	90 TYPICAL	22	122	47	39	69	4	71 TYPICAL	51 TYPICAL	124 ref.	71 ref.	190 ref.
	min	248	201	12	83	232	16	51		18	106	31	24	55	0					

Marking on the body





Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
TO-252(D-PAK)	Tape/Reel,13”reel	2500	EIA-481-1

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