

### ESTF80D22U

#### Ultra fast recovery

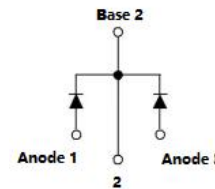
#### Features

- Ultra-fast recovery
- Very low  $I_{rrm}$
- Very low  $Q_{rr}$
- Specified at operating conditions
- Designed and qualified for industrial level



#### Benefits

- Reduced RFI and EMI
- Reduced power loss in diode and switching transistor
- Higher frequency operation
- Reduced snubbing



#### Applications

- Switching mode power supplies
- UPS
- DC/DC converters
- Free wheeling diodes
- Inverter
- Motor drives

Product Summary	
$V_R$	200V
$V_F$ at 40A at 25 °C	1.05 V
$I_{F(AV)}$	2 x 40 A
$t_{rr}$ (typical)	22 ns
$T_J$ (maximum)	150 °C
$Q_{rr}$ (typical)	50 nC
$I_{RRM}$ (typical)	3.5 A

#### Absolute Maximum Ratings

Parameter	Symbol	Test Conditions	Values	UNIT
Cathode to anode voltage	$V_R$		200	V
Reverse DC Voltage	$V_{R(D)}$		200	
Average Forward Current	$I_{F(AV)}$ Resistive Load	$T_C=25^\circ C$	160	A
		$T_C=115^\circ C$	80	
Maximum continuous forward current	$I_F$	per leg	40	
		per device	60	
Single pulse forward current (Peak forward current per leg)	$I_{FSM}$		150	
Maximum repetitive forward current (per leg)	$I_{FRM}$		60	
Operating junction and storage temperature range	$T_J, T_{Stg}$		- 55 to + 150	

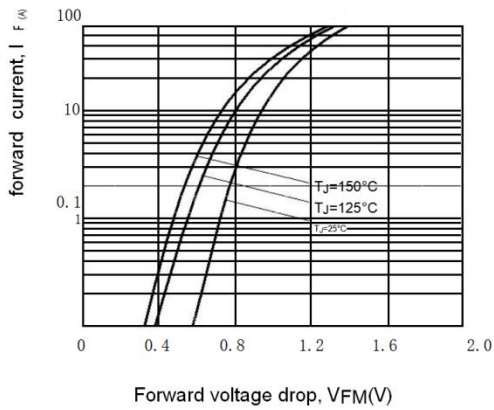
**Electrical Specifications (T<sub>J</sub> = 25 °C unless otherwise specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	UNIT
Cathode to anode breakdown voltage	V <sub>BR</sub>	I <sub>R</sub> = 100 μA	260	-	-	V
Maximum forward voltage	V <sub>FM</sub>	I <sub>F</sub> = 20 A	-	0.87	0.95	
		I <sub>F</sub> = 40 A	-	1.05	1.15	
Maximum reverse leakage current	I <sub>RM</sub>	V <sub>R</sub> = V <sub>R</sub> rated	-	-	15	μA
		T <sub>J</sub> = 125°C, V <sub>R</sub> = V <sub>R</sub> rated	-	-	250	

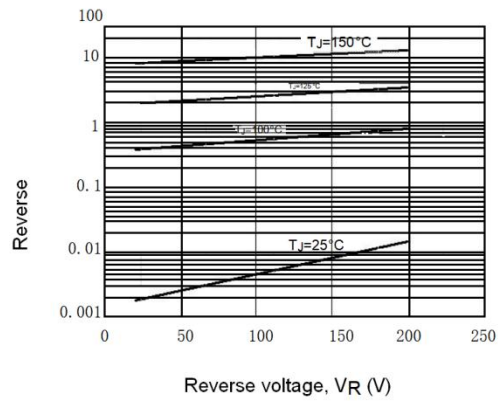
**Dynamic recovery characteristics(T<sub>J</sub>=25 °C unless otherwise specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>RR</sub> = 250mA (RG#1 CKT)	-	22	30	ns	
		I <sub>F</sub> = 1.0 A, di <sub>F</sub> /dt = 50 A/μs, V <sub>R</sub> = 30 V, T <sub>J</sub> = 25°C	-	-	30		
	t <sub>rr1</sub>	T <sub>J</sub> = 25 °C	I <sub>F</sub> =20A	-	22		-
	t <sub>rr2</sub>	T <sub>J</sub> = 125 °C		-	36		-
	Q <sub>rr</sub>	T <sub>J</sub> = 125 °C		-	60		-

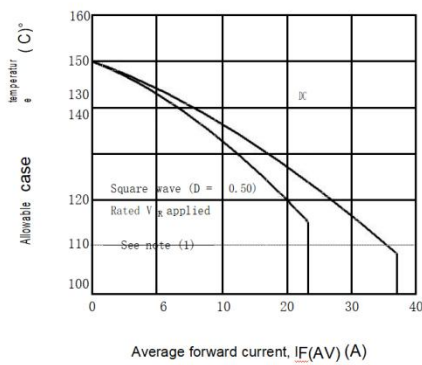
**Fig.1 Maximum forward voltage drop characteristics**



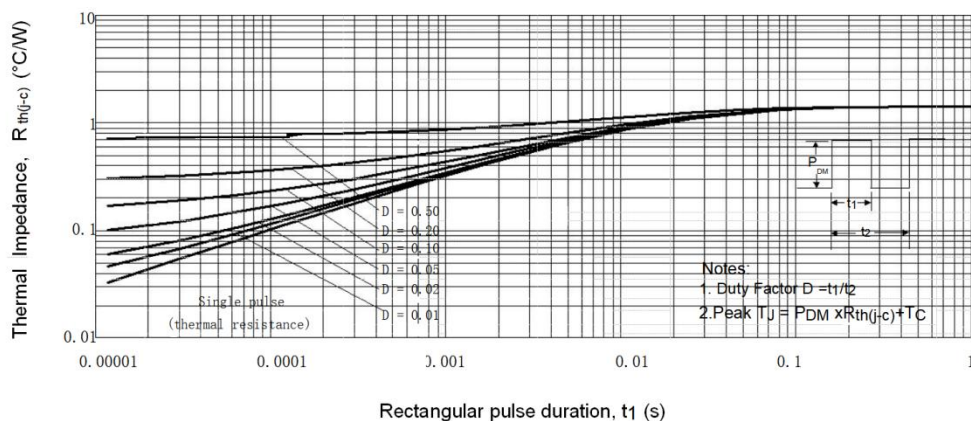
**Fig.2 Typical values of reverse current vs. reverse voltage**



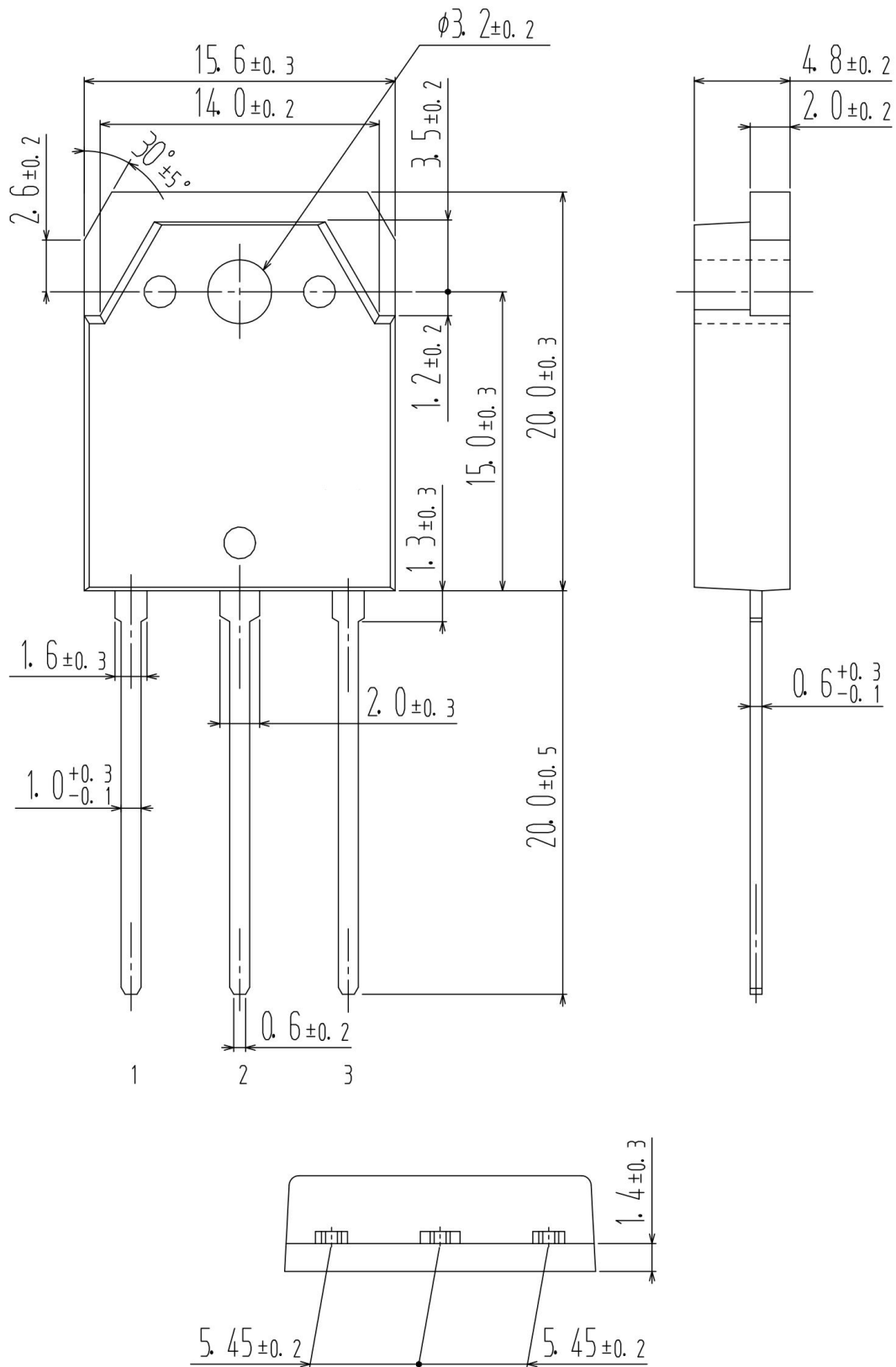
**Fig.3 Maximum allowable case temperature vs. average forward current**



**Fig.4 Maximum thermal impedance  $R_{th(j-c)}$  characteristics**



## Package outline dimension



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Rectifiers](#) category:*

*Click to view products by [MASPOWER](#) manufacturer:*

Other Similar products are found below :

[70HFR40](#) [FR105 R0](#) [RL252-TP](#) [1N5397](#) [JANTX1N5634A](#) [1N4005-TR](#) [1N4007-BP](#) [UFS120Je3/TR13](#) [20ETS12S](#) [RRE02VS6SGTR](#)  
[MS306](#) [A1N5404G-G](#) [CRF02\(T5L,TEMQ\)](#) [ACGRB207-HF](#) [CLH07\(TE16L,Q\)](#) [CLH03\(TE16L,Q\)](#) [1N5395-TP](#) [UES1302](#) [ACGRC307-HF](#)  
[ACEFC304-HF](#) [DZ-1380](#) [85HFR60](#) [40HFR60](#) [70HF120](#) [85HFR80](#) [SCF7500](#) [SM100](#) [ACGRA4001-HF](#) [SKN70/08](#) [SKR70/08](#) [NTE5819](#)  
[NTE5827](#) [NTE5828](#) [NTE5911](#) [NTE5915](#) [NTE6104](#) [NTE6163](#) [NTE6164](#) [NTE6165](#) [NTE6364](#) [TSD3G](#) [SET130312](#) [NRVUS110VT3G](#)  
[UES1106](#) [UES1306](#) [NRVUS240VT3G](#) [D5FE60-5063](#) [R4000GPS-TP](#) [D4015L56TP](#) [UES1306HR2](#)