

Rectifier diodes ultrafast, rugged

BYV72EW series

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-mb}$	Thermal resistance junction to mounting base	per diode	-	-	2.4	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	both diodes conducting in free air	-	-	1.4	K/W
			-	45	-	K/W

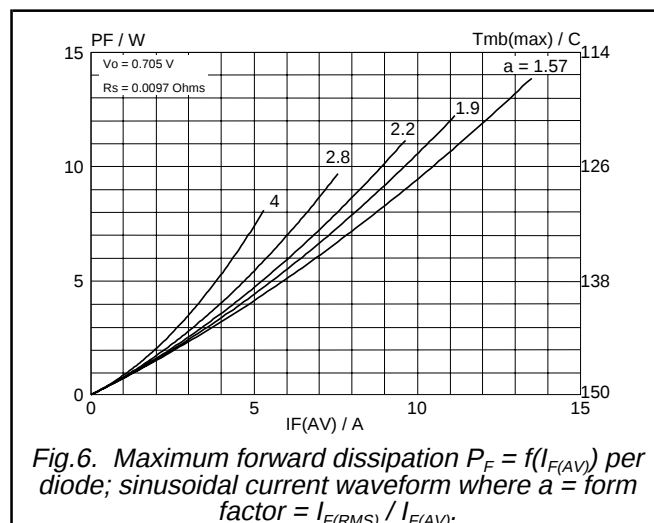
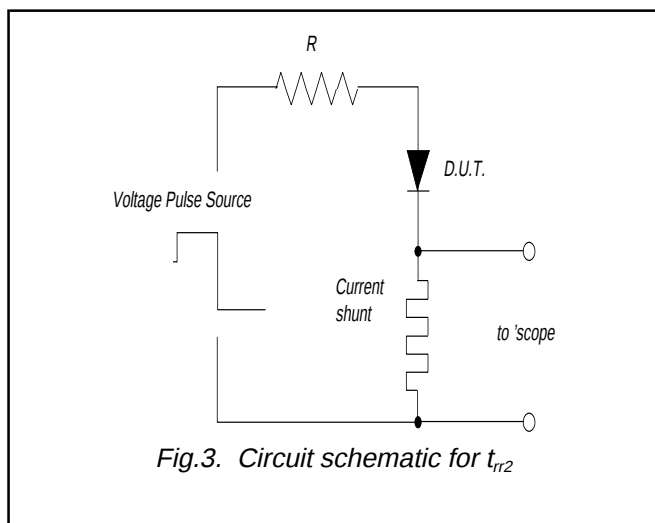
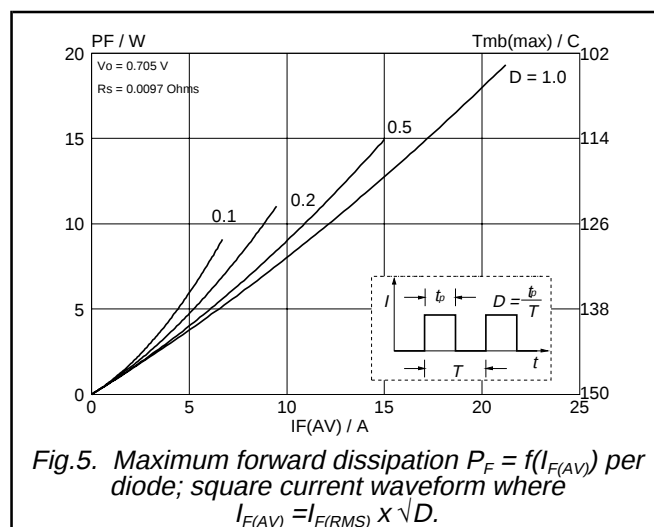
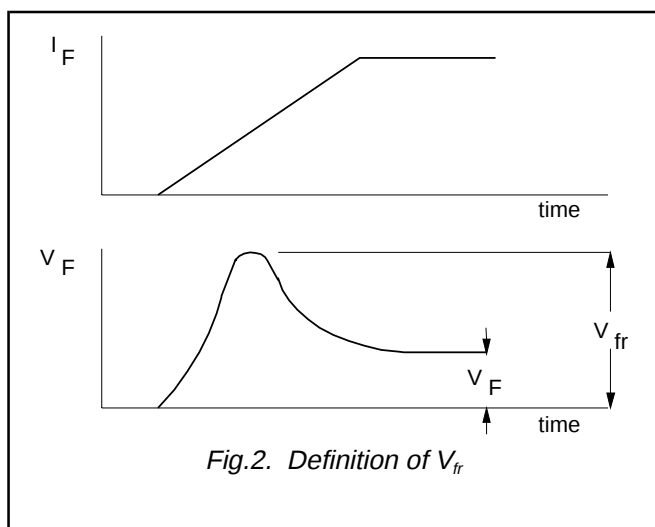
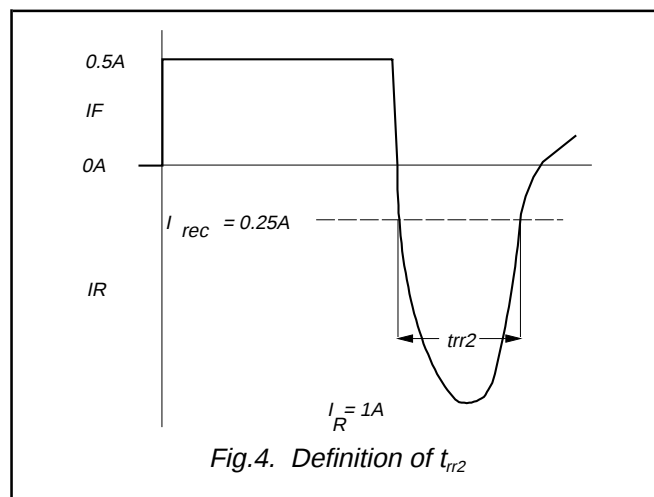
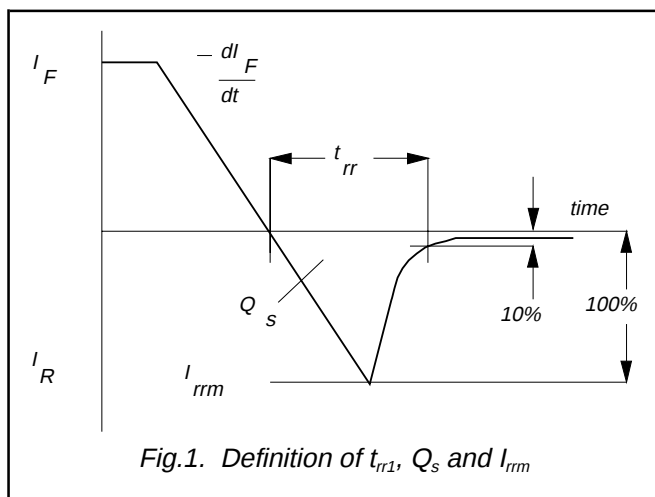
ELECTRICAL CHARACTERISTICS

characteristics are per diode at $T_j = 25\text{ °C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage	$I_F = 15\text{ A}$; $T_j = 150\text{ °C}$	-	0.83	0.90	V
		$I_F = 15\text{ A}$	-	0.95	1.05	V
		$I_F = 30\text{ A}$	-	1.00	1.20	V
I_R	Reverse current	$V_R = V_{RWM}$; $T_j = 100\text{ °C}$	-	0.5	1	mA
		$V_R = V_{RWM}$	-	10	100	μA
Q_s	Reverse recovery charge	$I_F = 2\text{ A}$; $V_R \geq 30\text{ V}$; $-dI_F/dt = 20\text{ A}/\mu\text{s}$	-	6	15	nC
t_{rr1}	Reverse recovery time	$I_F = 1\text{ A}$; $V_R \geq 30\text{ V}$; $-dI_F/dt = 100\text{ A}/\mu\text{s}$	-	20	28	ns
t_{rr2}	Reverse recovery time	$I_F = 0.5\text{ A}$ to $I_R = 1\text{ A}$; $I_{rec} = 0.25\text{ A}$	-	13	22	ns
V_{fr}	Forward recovery voltage	$I_F = 1\text{ A}$; $dI_F/dt = 10\text{ A}/\mu\text{s}$	-	1	-	V

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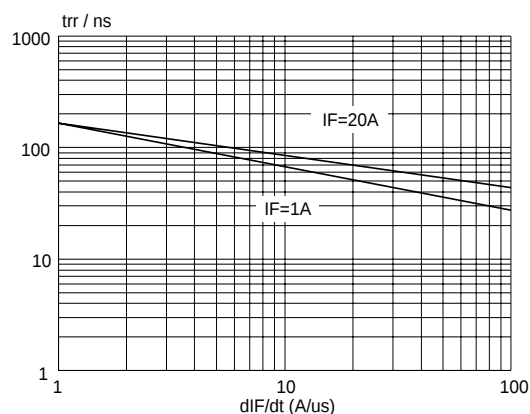


Fig.7. Maximum t_{rr} at $T_j = 25\text{ }^{\circ}\text{C}$; per diode

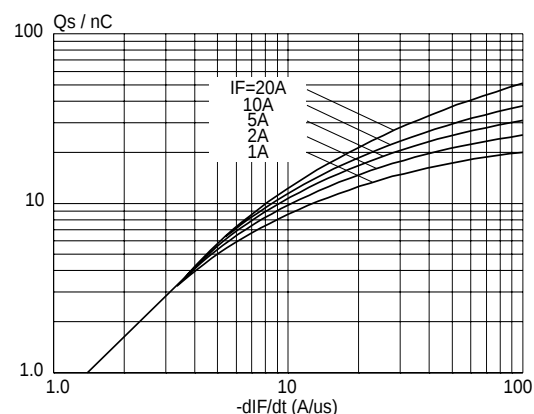


Fig.10. Maximum Q_s at $T_j = 25\text{ }^{\circ}\text{C}$; per diode

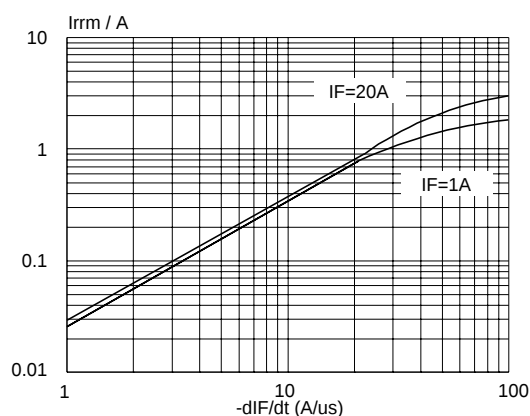


Fig.8. Maximum I_{rrm} at $T_j = 25\text{ }^{\circ}\text{C}$; per diode

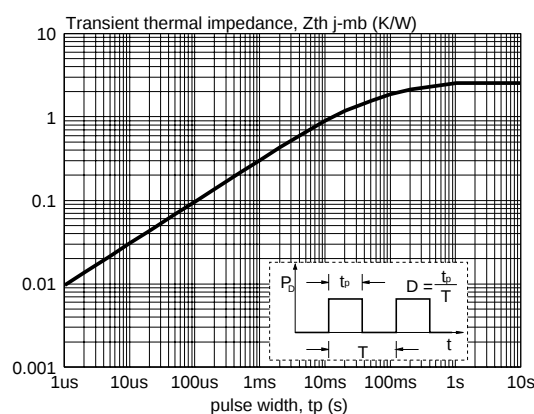


Fig.11. Transient thermal impedance; per diode;
 $Z_{th\ j-mb} = f(t_p)$.

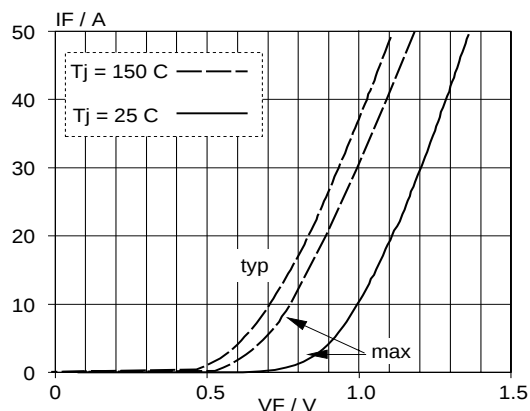
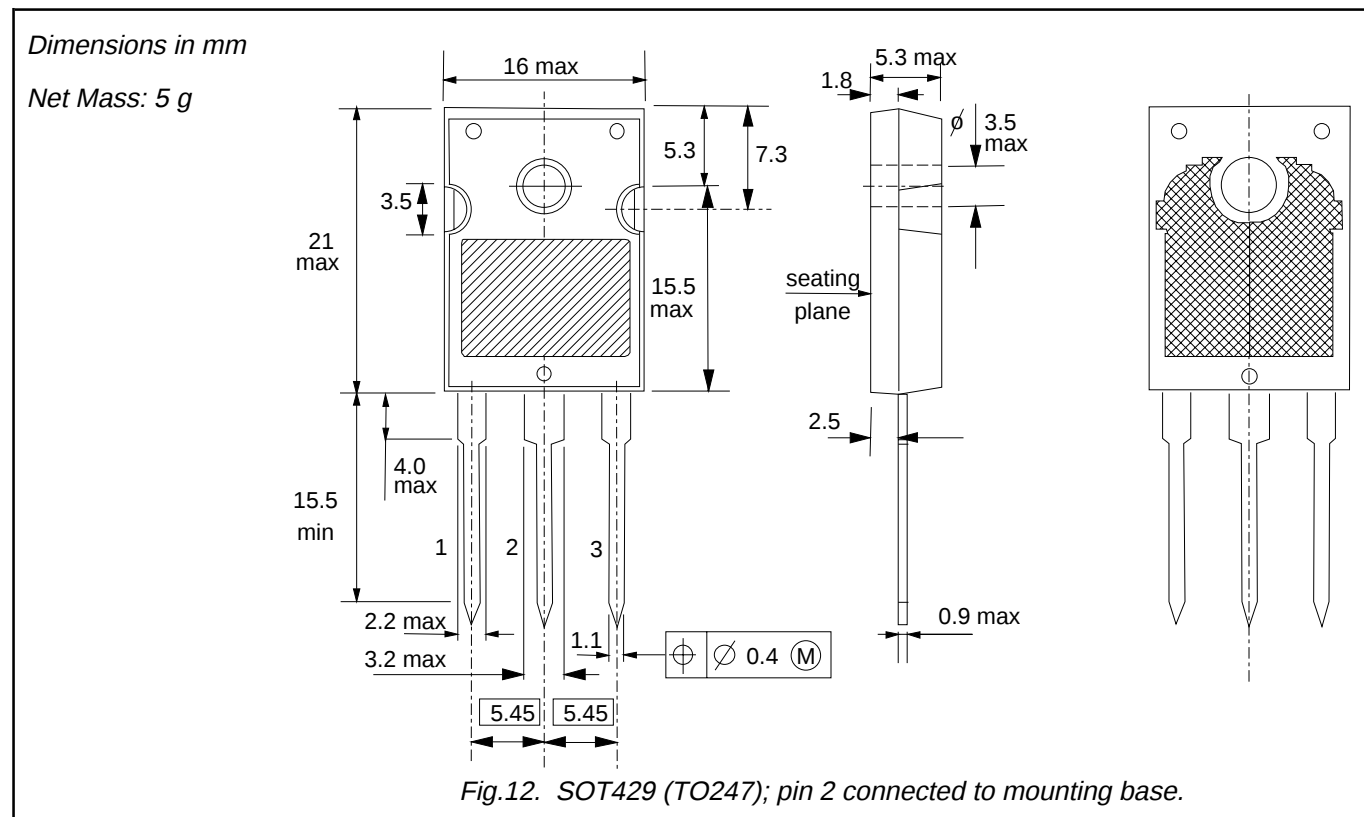


Fig.9. Typical and maximum forward characteristic
 $I_F = f(V_F)$; parameter T_j

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MECHANICAL DATA



Notes

1. Refer to mounting instructions for SOT429 envelope.
2. Epoxy meets UL94 V0 at 1/8".

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DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	
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