

4A, 100V - 200V Ultra Fast Surface Mount Rectifier

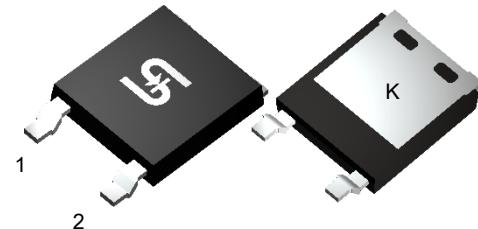
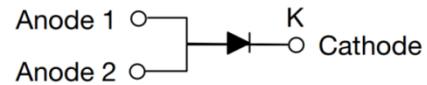
FEATURES

- Planar technology
- Low power loss, high efficiency
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

- High frequency switching
- DC/DC
- Snubber

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I _F	4	A
V _{RRM}	100 - 200	V
I _{FSM}	130	A
T _{J MAX}	175	°C
Package	ThinDPAK	
Configuration	Single die	


ThinDPAK®

ThinDPAK


ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)				
PARAMETER	SYMBOL	PUAD4B	PUAD4D	UNIT
Marking code on the device		UAD4B	UAD4D	
Repetitive peak reverse voltage	V _{RRM}	100	200	V
Reverse voltage, total rms value	V _{R(RMS)}	70	140	V
Forward current	I _F	4		A
Surge peak forward current single half sine-wave superimposed on rated load	t = 8.3ms	I _{FSM}	130	A
	t = 1.0ms		270	
Junction temperature	T _J	-55 to +175		°C
Storage temperature	T _{STG}	-55 to +175		°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	3.5	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	11.8	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	2.0	°C/W

Thermal Performance Note: Mounted on heat sink with 2" x 3" x 0.25" Al-Plate

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 2A, T_J = 25^\circ C$	V_F	0.80	-	V
	$I_F = 2A, T_J = 125^\circ C$		0.64	-	V
	$I_F = 4A, T_J = 25^\circ C$		0.85	0.92	V
	$I_F = 4A, T_J = 125^\circ C$		0.71	-	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ C$	I_R	-	2	µA
	$T_J = 125^\circ C$		2	-	µA
Junction capacitance	1MHz, $V_R = 4.0V$	C_J	77	-	pF
Reverse recovery time	$I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	t_{rr}	-	25	ns
	$I_F = 1.0A, dI/dt = 50A/\mu s, V_R = 30V$		25	-	
Reverse recovery current	$I_F = 4.0A, dI/dt = 200A/\mu s, V_R = 100V$	I_{RM}	3	-	A
Reverse recovery charge		Q_{rr}	42	-	nC
Reverse recovery time		t_{rr}	20	-	ns

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
PUAD4x	ThinDPAK	4,500 / Tape & Reel

Notes:

1. "x" defines voltage from 100V(PUAD4B) to 200V(PUAD4D)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

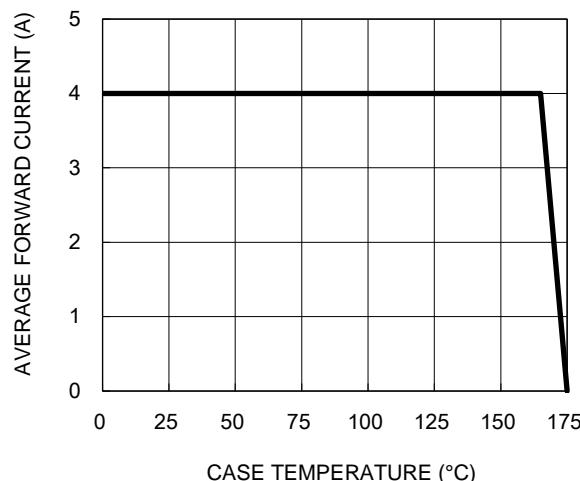


Fig.2 Typical Junction Capacitance

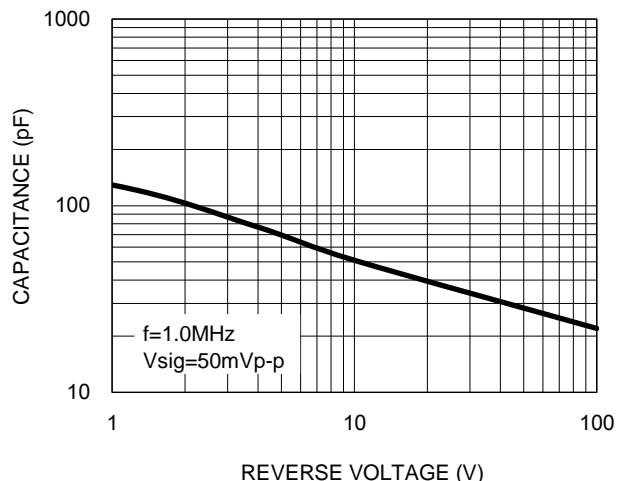


Fig.3 Typical Reverse Characteristics

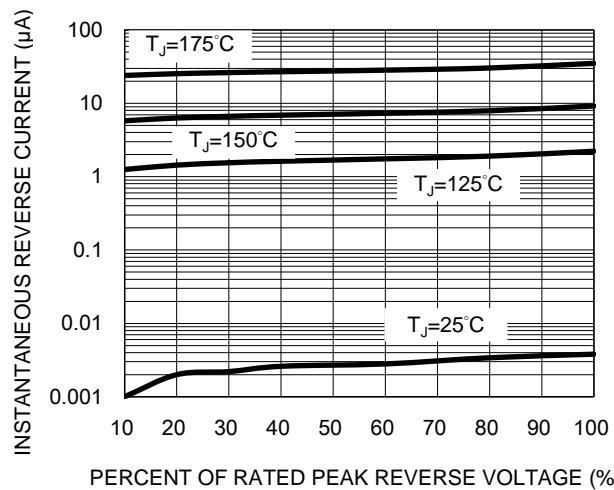


Fig.4 Typical Forward Characteristics

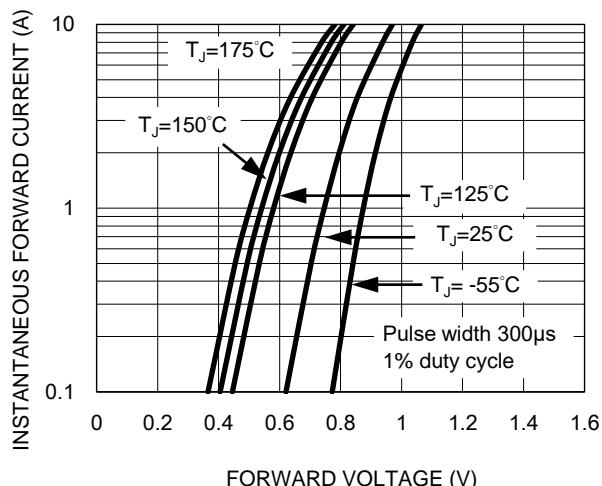
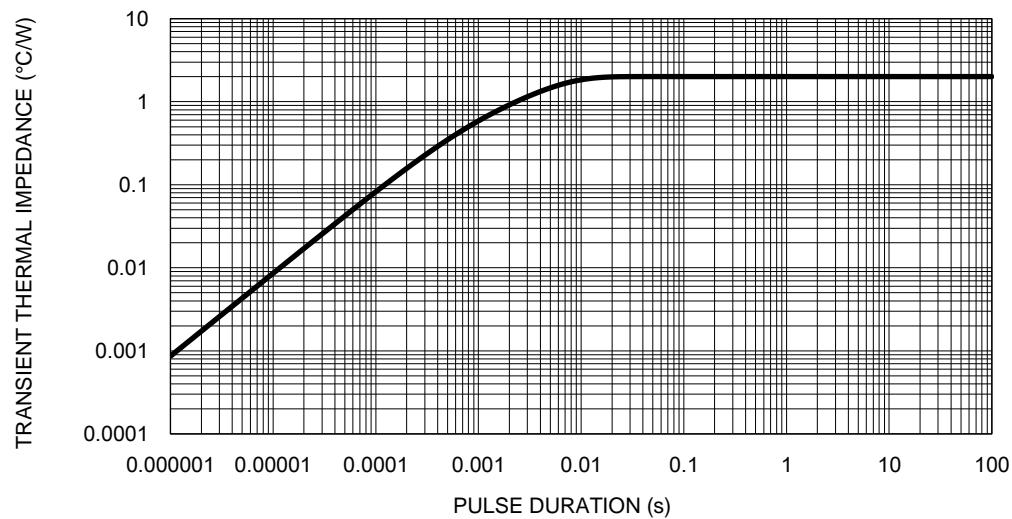
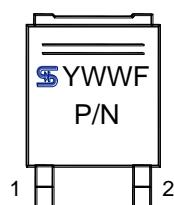
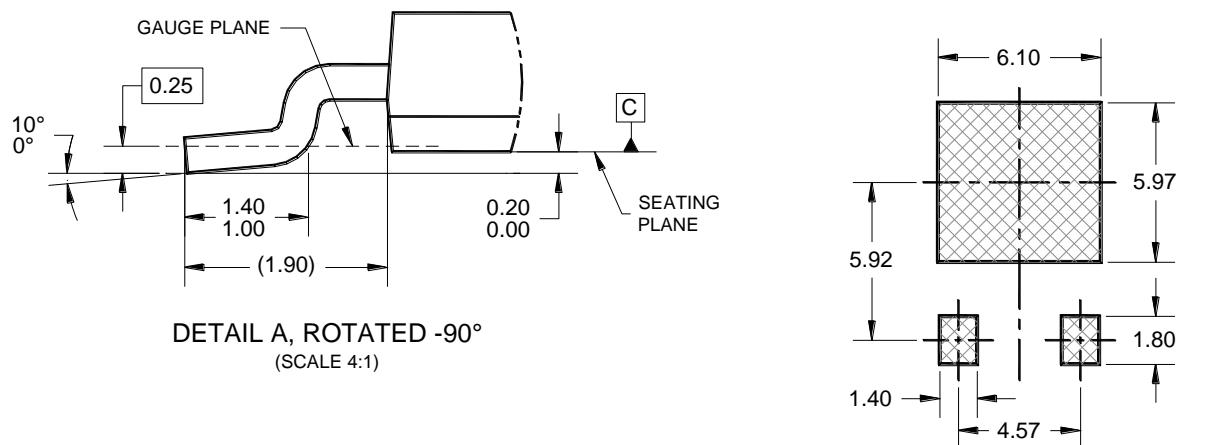
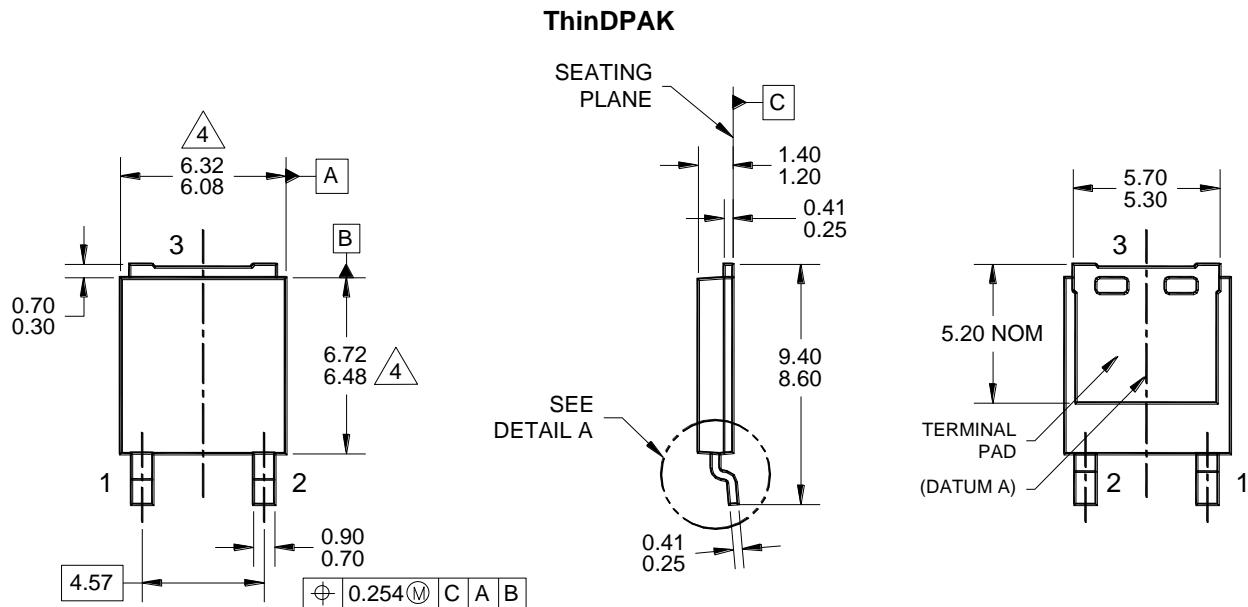


Fig.5 Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS

MARKING DIAGRAM

YWW = DATE CODE
F = FACTORY CODE
P/N = MARKING CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC TO-252, VARIATION AE, ISSUE F.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSION, OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-TDPAK-065 REV A.

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