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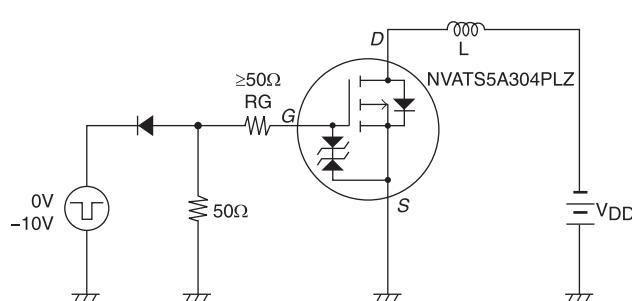
# NVATS5A304PLZ

## ELECTRICAL CHARACTERISTICS at $T_a = 25^\circ\text{C}$ (Note 5)

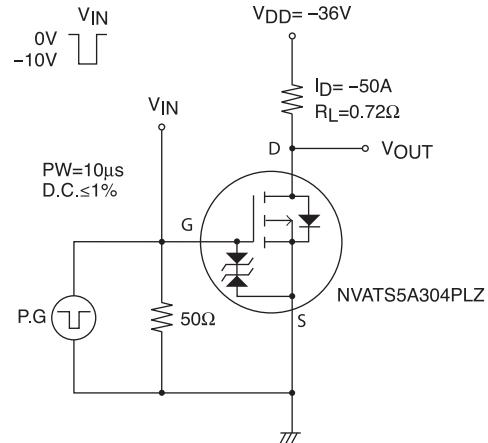
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V(\text{BR})_{\text{DSS}}$	$I_D = -1 \text{ mA}, V_{GS} = 0 \text{ V}$	-60			V
Zero-Gate Voltage Drain Current	$I_{\text{DSS}}$	$V_{DS} = -60 \text{ V}, V_{GS} = 0 \text{ V}$			-10	$\mu\text{A}$
Gate to Source Leakage Current	$I_{\text{GSS}}$	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0 \text{ V}$			$\pm 10$	$\mu\text{A}$
Gate Threshold Voltage	$V_{GS(\text{th})}$	$V_{DS} = -10 \text{ V}, I_D = -1 \text{ mA}$	-1.2		-2.6	V
Forward Transconductance	$g_{\text{FS}}$	$V_{DS} = -10 \text{ V}, I_D = -50 \text{ A}$		100		S
Static Drain to Source On-State Resistance	$R_{\text{DS(on)1}}$	$I_D = -50 \text{ A}, V_{GS} = -10 \text{ V}$		5.0	6.5	$\text{m}\Omega$
	$R_{\text{DS(on)2}}$	$I_D = -50 \text{ A}, V_{GS} = -4.5 \text{ V}$		6.4	8.9	$\text{m}\Omega$
Input Capacitance	$C_{\text{iss}}$	$V_{DS} = -20 \text{ V}, f = 1 \text{ MHz}$		13,000		$\text{pF}$
Output Capacitance	$C_{\text{oss}}$			1,080		$\text{pF}$
Reverse Transfer Capacitance	$C_{\text{rss}}$			760		$\text{pF}$
Turn-ON Delay Time	$t_{\text{d(on)}}$	See Fig.2		80		ns
Rise Time	$t_r$			650		ns
Turn-OFF Delay Time	$t_{\text{d(off)}}$			780		ns
Fall Time	$t_f$			460		ns
Total Gate Charge	$Q_g$	$V_{DS} = -36 \text{ V}, V_{GS} = -10 \text{ V}, I_D = -100 \text{ A}$		250		$\text{nC}$
Gate to Source Charge	$Q_{gs}$			55		$\text{nC}$
Gate to Drain "Miller" Charge	$Q_{gd}$			50		$\text{nC}$
Forward Diode Voltage	$V_{SD}$	$I_S = -100 \text{ A}, V_{GS} = 0 \text{ V}$		-1.0	-1.5	V
Reverse Recovery Time	$t_{\text{rr}}$	See Fig.3		90		ns
Reverse Recovery Charge	$Q_{rr}$		$I_S = -100 \text{ A}, V_{GS} = 0 \text{ V}, di/dt = -100 \text{ A}/\mu\text{s}$	245		$\text{nC}$

Note 5 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

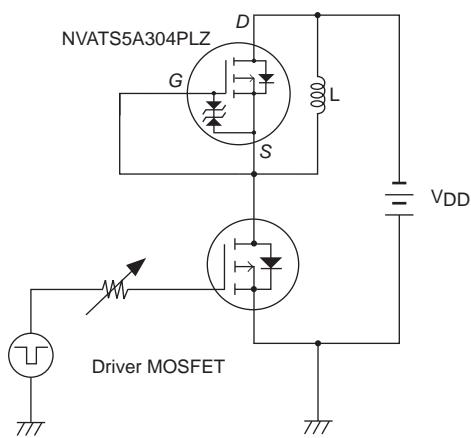
**Fig.1 Unclamped Inductive Switching Test Circuit**



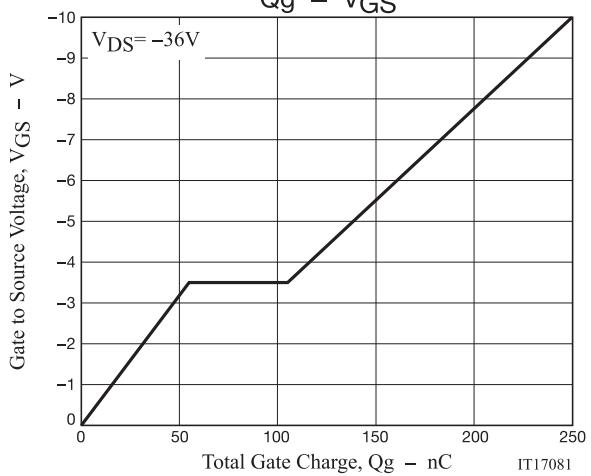
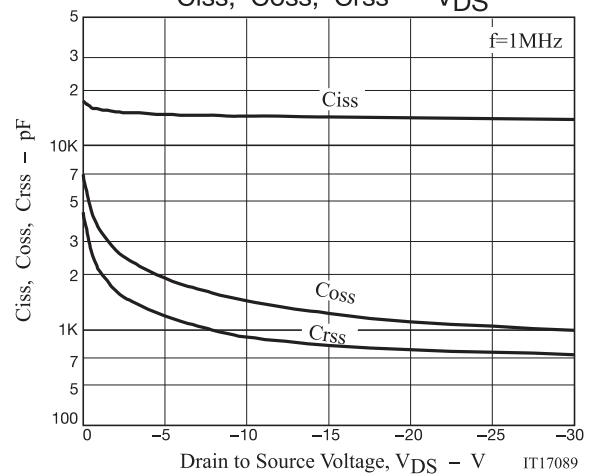
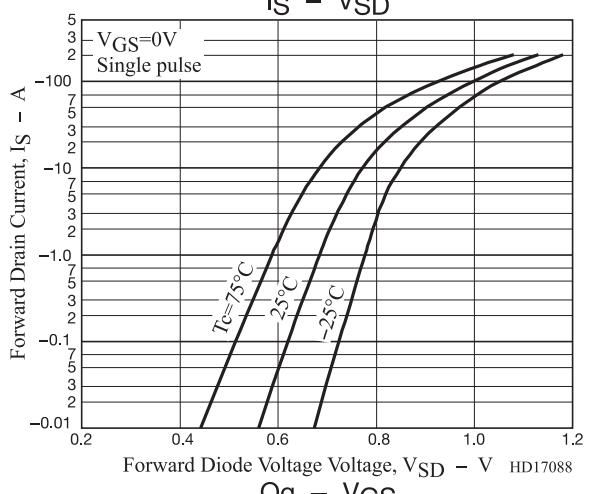
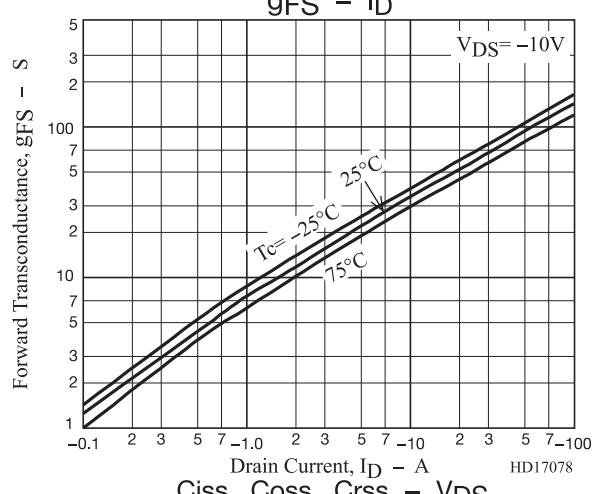
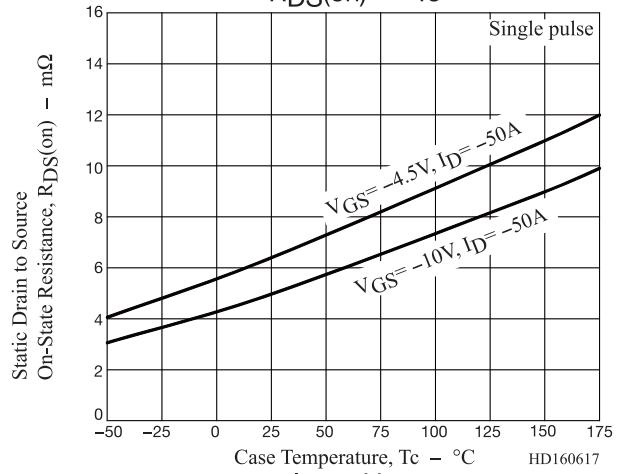
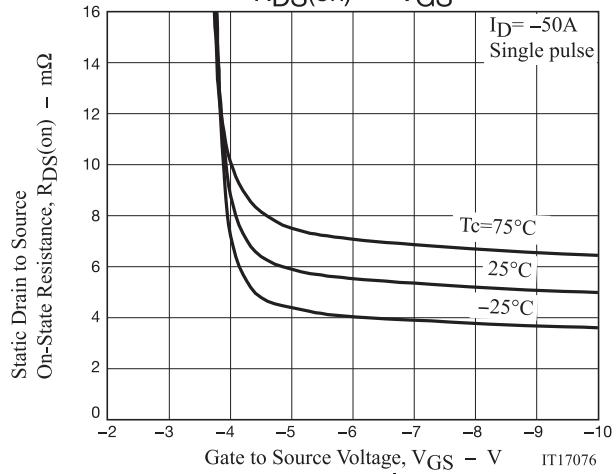
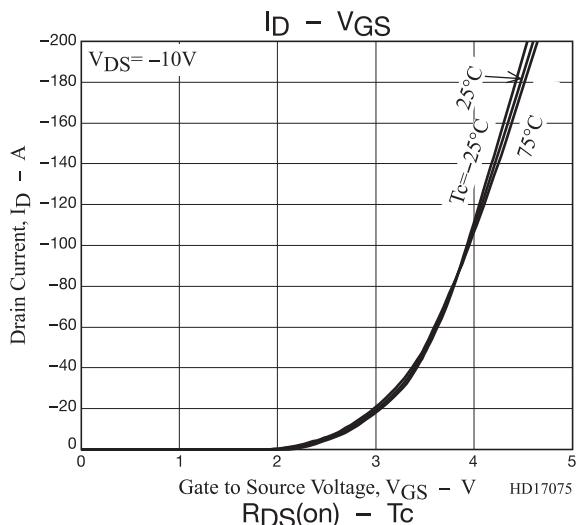
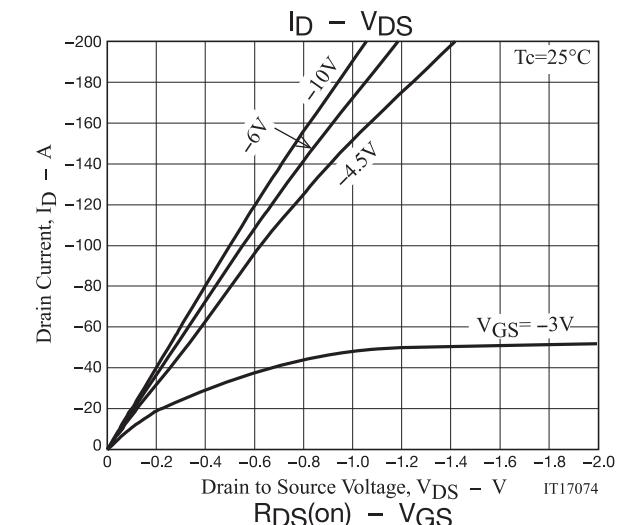
**Fig.2 Switching Time Test Circuit**



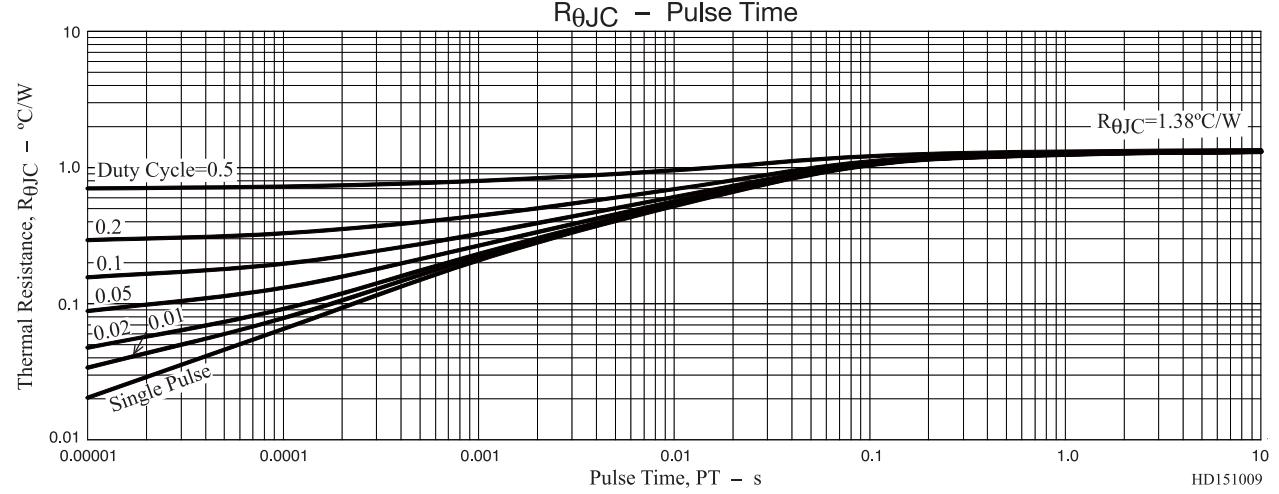
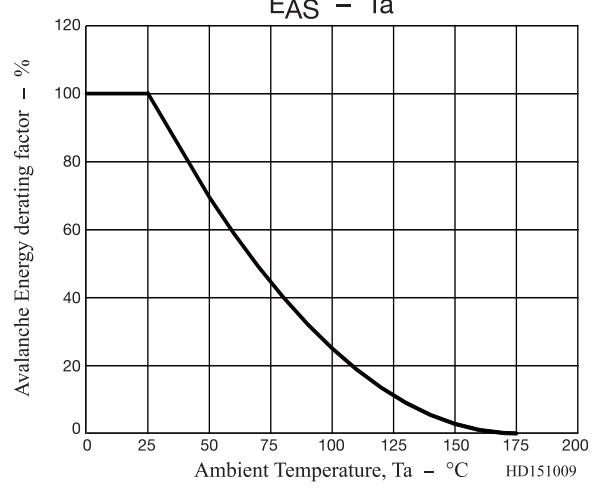
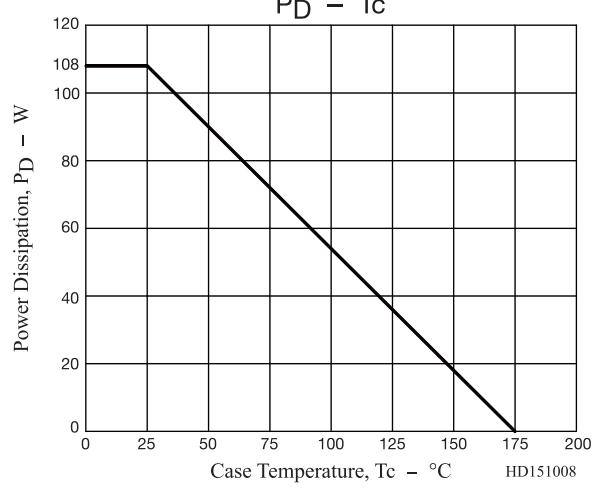
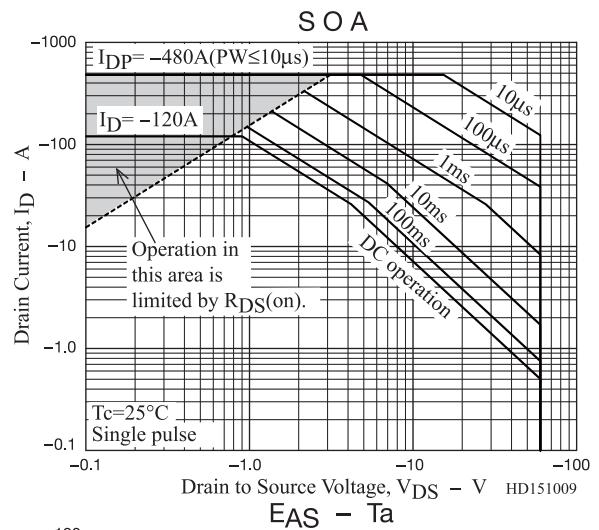
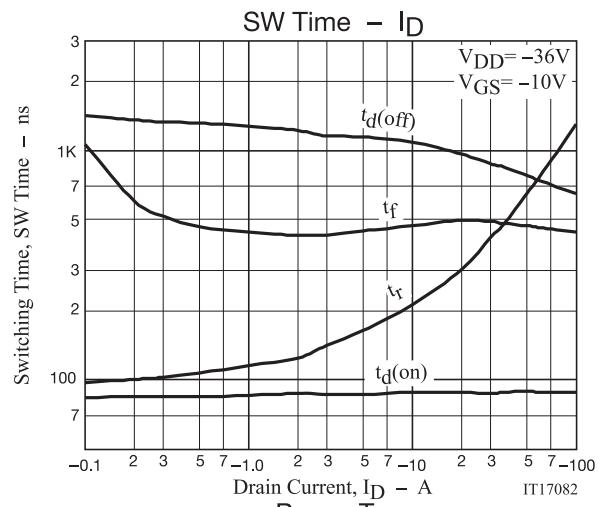
**Fig.3 Reverse Recovery Time Test Circuit**



# NVATS5A304PLZ



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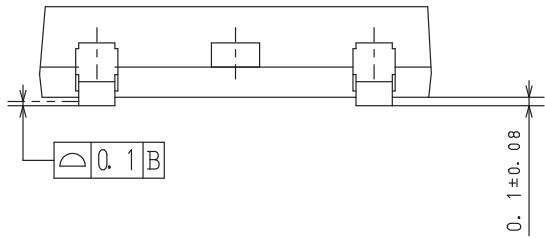
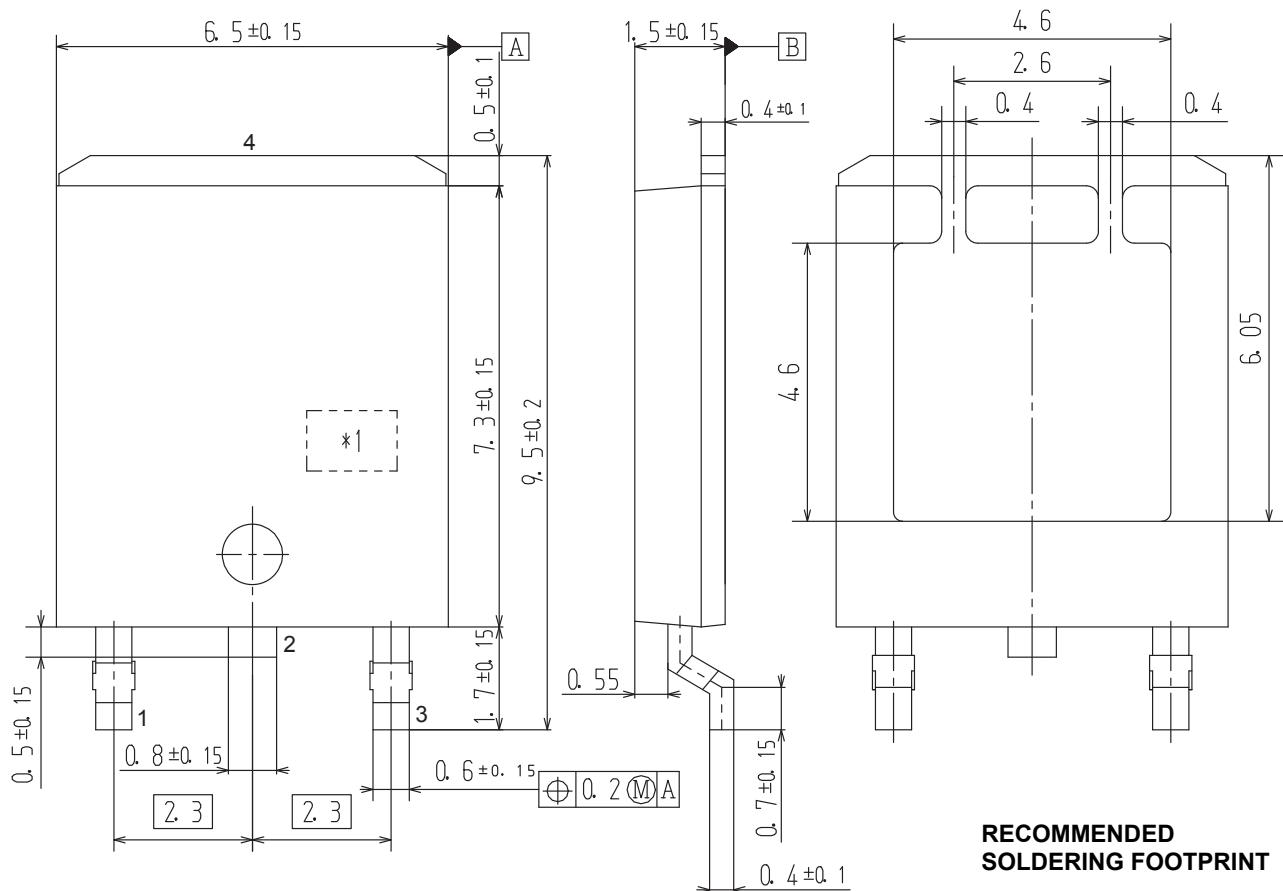
## PACKAGE DIMENSIONS

unit : mm

### DPAK (Single Gauge) / ATPAK

CASE 369AM

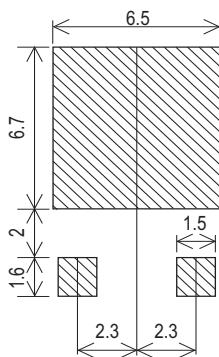
ISSUE O



Pin 2 is idle pin with electrical  
designation only carried

\*1:Lot indication

- 1 : Gate
- 2 : Drain
- 3 : Source
- 4 : Drain



# NVATS5A304PLZ

## ORDERING INFORMATION

Device	Marking	Package	Shipping (Qty / Packing)
NVATS5A304PLZT4G	ATP304	DPAK (Single Gauge) / ATPAK (Pb-Free / Halogen Free)	3,000 / Tape & Reel

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. [http://www.onsemi.com/pub\\_link/Collateral/BRD8011-D.PDF](http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF)

Note on usage : Since the NVATS5A304PLZ is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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