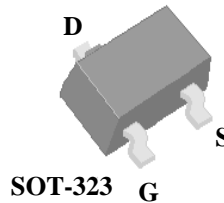




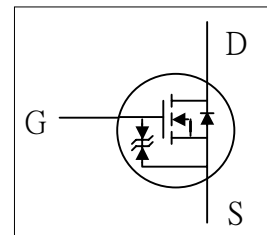
- ▼ Lower Gate Charge
- ▼ Capable of 2.5V Gate Drive
- ▼ Small Package Outline
- ▼ RoHS Compliant & Halogen-Free



BV_{DSS}	20V
$R_{DS(ON)}$	0.6 Ω
I_D^3	600mA

Description

AP1332 series are from Advanced Power innovated design and silicon process technology to achieve the lowest possible on-resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of power applications.



Absolute Maximum Ratings @ $T_j=25^\circ\text{C}$ (unless otherwise specified)

Symbol	Parameter	Rating	Unit
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 8	V
$I_D @ T_A=25^\circ\text{C}$	Drain Current ³ , V_{GS} @ 4.5V	600	mA
$I_D @ T_A=70^\circ\text{C}$	Drain Current ³ , V_{GS} @ 4.5V	470	mA
I_{DM}	Pulsed Drain Current ¹	2.5	A
$P_D @ T_A=25^\circ\text{C}$	Total Power Dissipation	0.35	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient ³	360	$^\circ\text{C}/\text{W}$



Electrical Characteristics @T_j=25°C(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	20	-	-	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =4.5V, I _D =600mA	-	-	0.6	Ω
		V _{GS} =2.5V, I _D =300mA	-	-	2	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.5	-	1.25	V
g _{fs}	Forward Transconductance	V _{DS} =5V, I _D =600mA	-	1	-	S
I _{DSS}	Drain-Source Leakage Current	V _{DS} =16V, V _{GS} =0V	-	-	10	uA
I _{GSS}	Gate-Source Leakage	V _{GS} =±8V, V _{DS} =0V	-	-	±30	uA
Q _g	Total Gate Charge	I _D =600mA	-	1.3	2	nC
Q _{gs}	Gate-Source Charge	V _{DS} =16V	-	0.3	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	V _{GS} =4.5V	-	0.5	-	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =10V	-	21	-	ns
t _r	Rise Time	I _D =600mA	-	53	-	ns
t _{d(off)}	Turn-off Delay Time	R _G =3.3Ω	-	100	-	ns
t _f	Fall Time	V _{GS} =5V	-	125	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V	-	38	60	pF
C _{oss}	Output Capacitance	V _{DS} =10V	-	17	-	pF
C _{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	12	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{SD}	Forward On Voltage ²	I _S =300mA, V _{GS} =0V	-	-	1.2	V

Notes:

- 1.Pulse width limited by Max. junction temperature.
- 2.Pulse test.
- 3.Surface mounted on FR4 board, t ≤ 10 sec.

THIS PRODUCT IS SENSITIVE TO ELECTROSTATIC DISCHARGE, PLEASE HANDLE WITH CAUTION.

USE OF THIS PRODUCT AS A CRITICAL COMPONENT IN LIFE SUPPORT OR OTHER SIMILAR SYSTEMS IS NOT AUTHORIZED.

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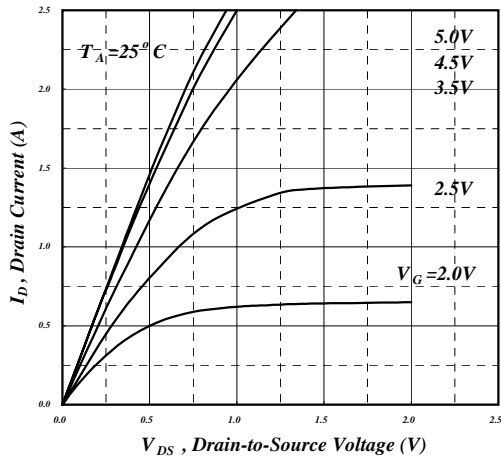


Fig 1. Typical Output Characteristics

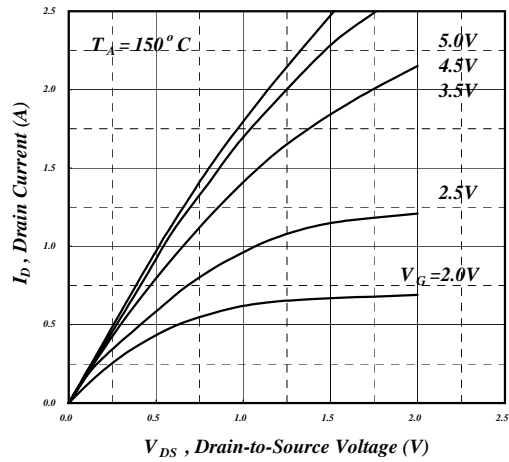


Fig 2. Typical Output Characteristics

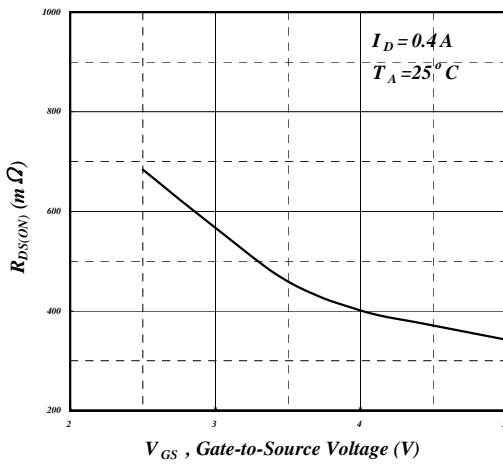


Fig 3. On-Resistance v.s. Gate Voltage

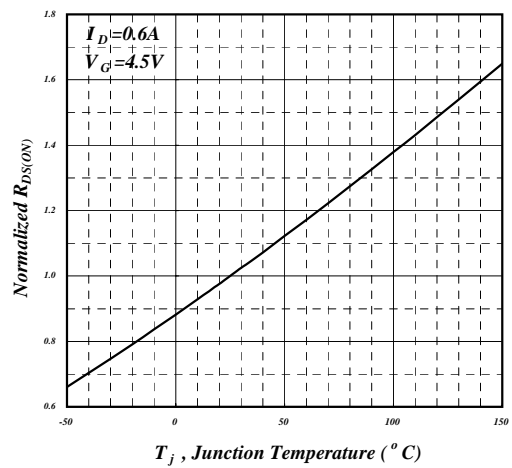


Fig 4. Normalized On-Resistance v.s. Junction Temperature

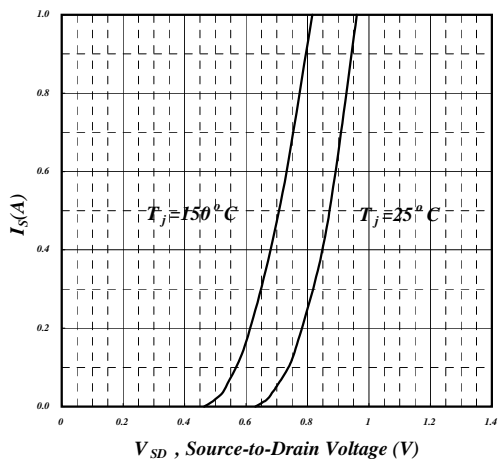


Fig 5. Forward Characteristic of Reverse Diode

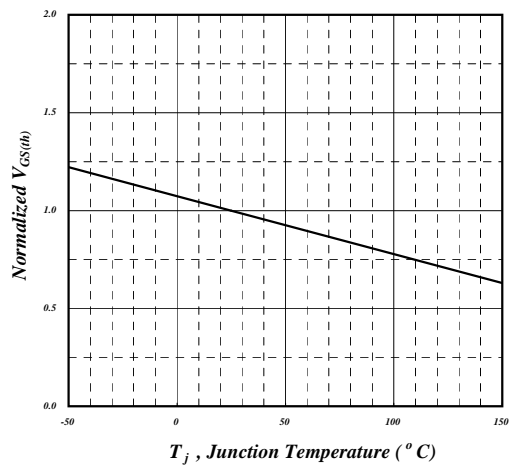


Fig 6. Gate Threshold Voltage v.s. Junction Temperature



AP1332GEU-HF

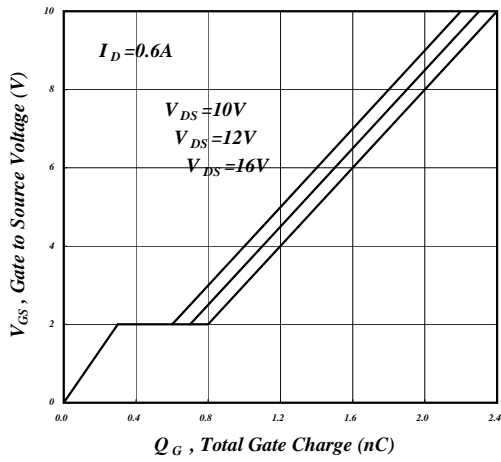


Fig 7. Gate Charge Characteristics

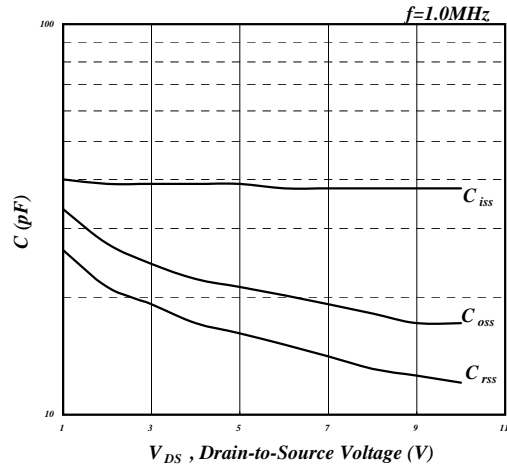


Fig 8. Typical Capacitance Characteristics

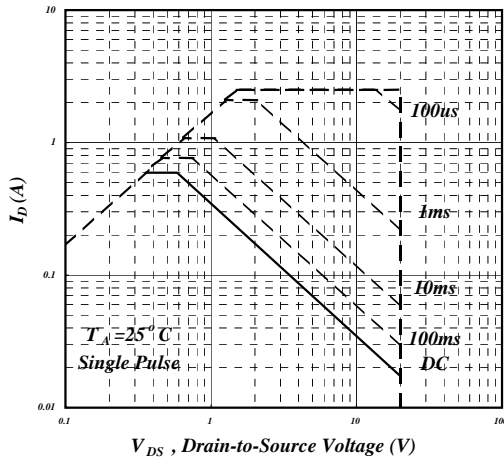


Fig 9. Maximum Safe Operating Area

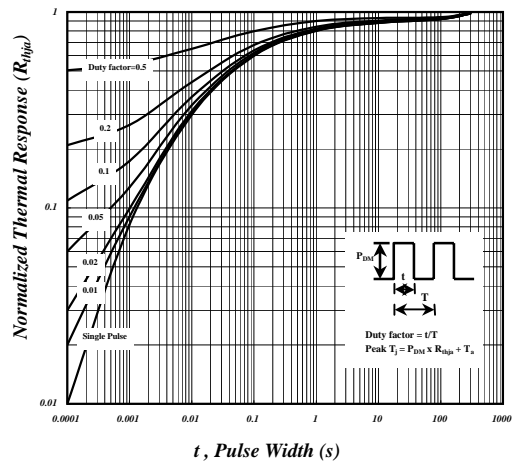


Fig 10. Effective Transient Thermal Impedance

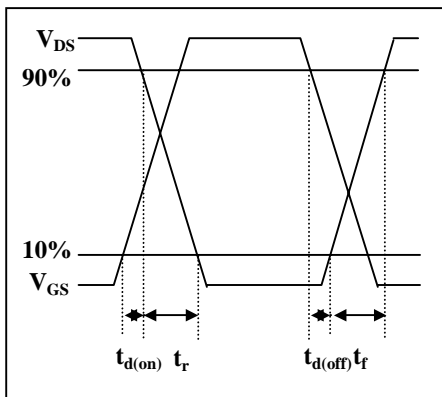


Fig 11. Switching Time Waveform

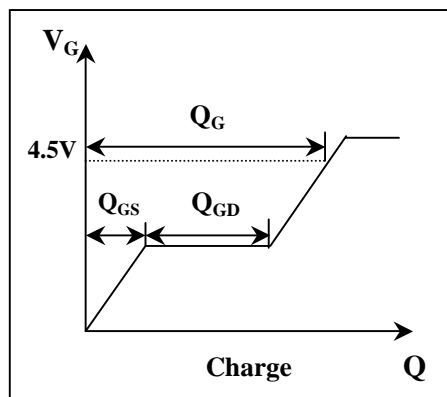
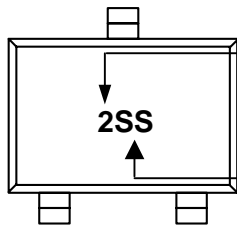


Fig 12. Gate Charge Waveform



MARKING INFORMATION



Part Number : 2

Date Code : SS

SS:2004,2008,2012...

SS:2003,2007,2011...

SS:2002,2006,2010...

SS:2001,2005,2009...