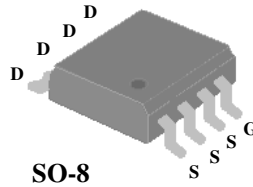




- ▼ Simple Drive Requirement
- ▼ Fast Switching Characteristic
- ▼ RoHS Compliant

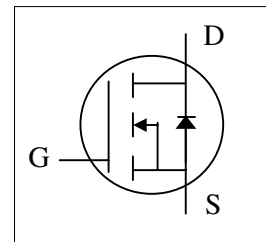


BV_{DSS}	35V
$R_{DS(ON)}$	6.6m Ω
I_D	16A

Description

Advanced Power MOSFETs from APEC provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness.

The SO-8 package is widely preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	35	V
V_{GS}	Gate-Source Voltage	+20	V
$I_D@T_A=25^\circ C$	Continuous Drain Current ³	16	A
$I_D@T_A=70^\circ C$	Continuous Drain Current ³	12.8	A
I_{DM}	Pulsed Drain Current ¹	60	A
$P_D@T_A=25^\circ C$	Total Power Dissipation	2.5	W
	Linear Derating Factor	0.02	W/ $^\circ C$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient ³	50	$^\circ C/W$



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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =1mA	35	-	-	V
ΔBV _{DSS} /ΔT _j	Breakdown Voltage Temperature Coefficient	Reference to 25°C, I _D =1mA	-	0.03	-	V/°C
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =10V, I _D =7.5A	-	-	6.6	mΩ
		V _{GS} =4.5V, I _D =7.5A	-	-	10	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.8	-	2.3	V
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =7.5A	-	33	-	S
I _{DSS}	Drain-Source Leakage Current	V _{DS} =30V, V _{GS} =0V	-	-	10	uA
	Drain-Source Leakage Current (T _j =70°C)	V _{DS} =30V, V _{GS} =0V	-	-	25	uA
I _{GSS}	Gate-Source Leakage	V _{GS} =±20V	-	-	±100	nA
Q _g	Total Gate Charge ²	I _D =15A	-	35	56	nC
Q _{gs}	Gate-Source Charge	V _{DS} =24V	-	7	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	V _{GS} =4.5V	-	22	-	nC
t _{d(on)}	Turn-on Delay Time ²	V _{DS} =15V	-	13	-	ns
t _r	Rise Time	I _D =7.5A	-	24	-	ns
t _{d(off)}	Turn-off Delay Time	R _G =3.3Ω, V _{GS} =10V	-	39	-	ns
t _f	Fall Time	R _D =2Ω	-	17	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V	-	2850	4560	pF
C _{oss}	Output Capacitance	V _{DS} =10V	-	890	-	pF
C _{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	635	-	pF
R _g	Gate Resistance	f=1.0MHz	-	0.8	1.2	Ω

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	I _S =1.9A, V _{GS} =0V	-	-	1.3	V
t _{rr}	Reverse Recovery Time ²	I _S =7.5A, V _{GS} =0V,	-	37	-	ns
Q _{rr}	Reverse Recovery Charge	di/dt=100A/μs	-	38	-	nC

Notes:

- 1.Pulse width limited by Max. junction temperature.
- 2.Pulse width ≤300us , duty cycle ≤2%.
- 3.Surface mounted on 1 in² copper pad of FR4 board, t ≤10sec ; 125 °C/W when mounted on Min. copper pad.

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.

APEC DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

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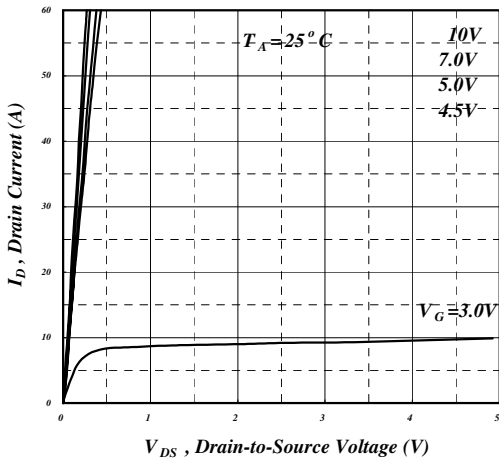


Fig 1. Typical Output Characteristics

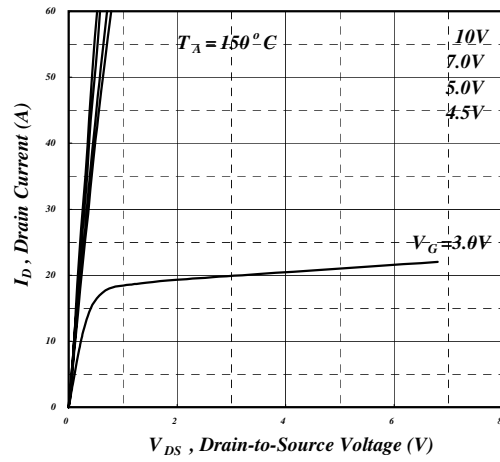


Fig 2. Typical Output Characteristics

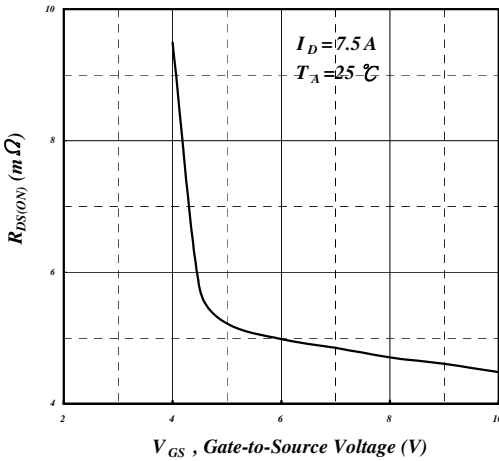


Fig 3. On-Resistance v.s. Gate Voltage

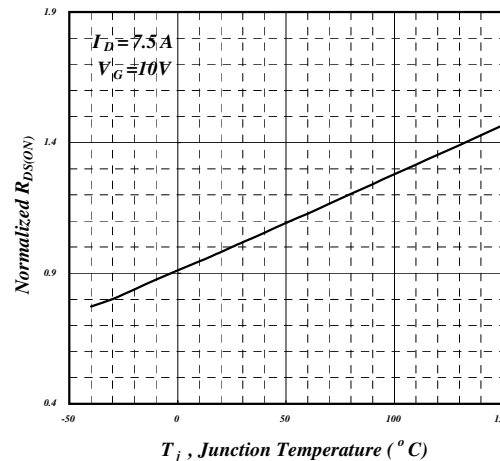


Fig 4. Normalized On-Resistance v.s. Junction Temperature

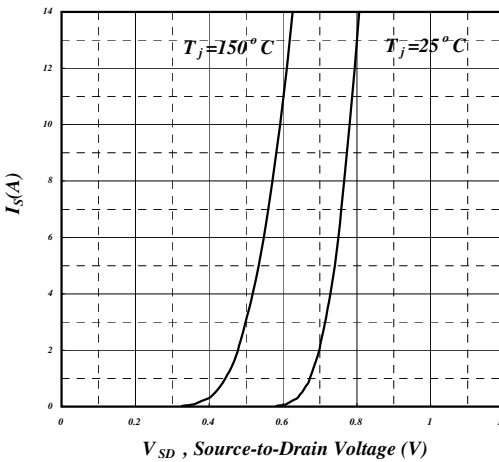


Fig 5. Forward Characteristic of Reverse Diode

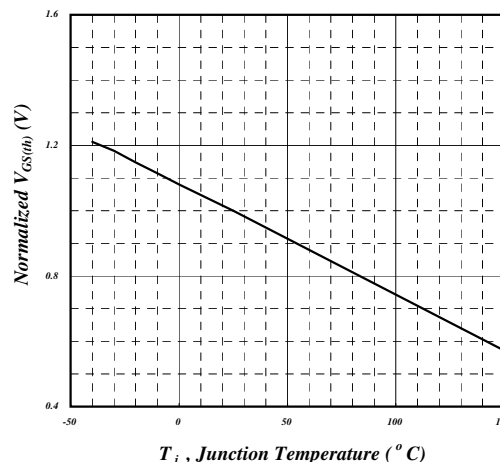
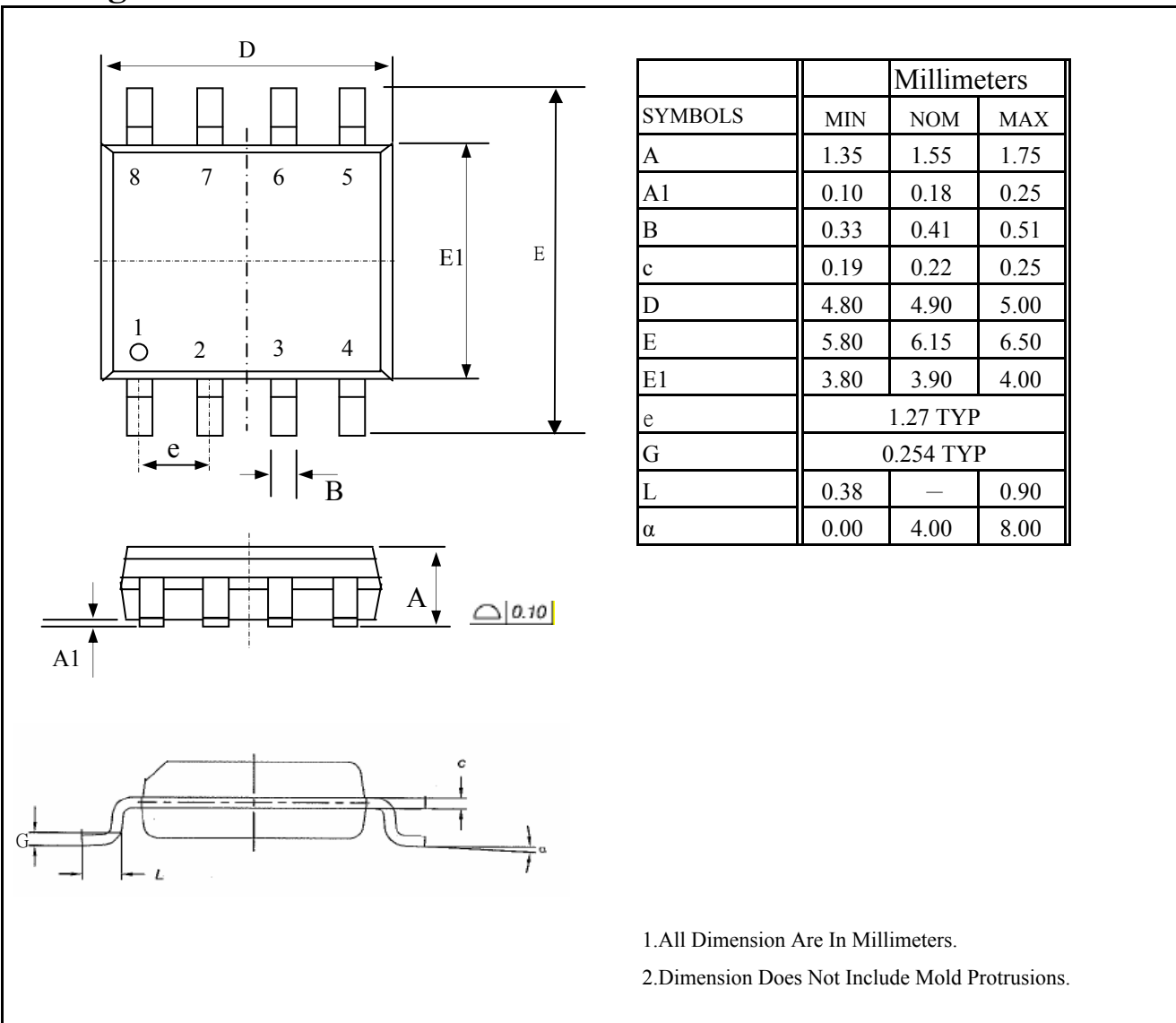


Fig 6. Gate Threshold Voltage v.s. Junction Temperature



Package Outline : SO-8



Part Marking Information & Packing : SO-8

