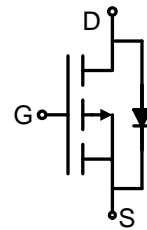


Main Product Characteristics:

V_{DSS}	-60V
$R_{DS(on)}$	12m Ω (typ.)
I_D	-60A


TO-252

**Marking and pin
Assignment**

Schematic diagram
Features and Benefits:

- Advanced trench MOSFET process technology
- Special designed for PWM, load switching and general purpose applications
- Ultra low on-resistance with low gate charge
- High Power and current handling capability
- Fully Avalanche Rated

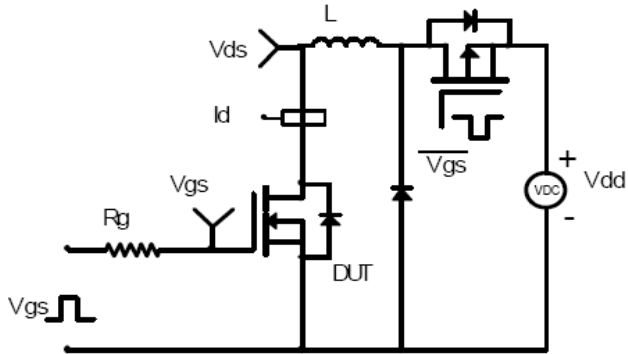
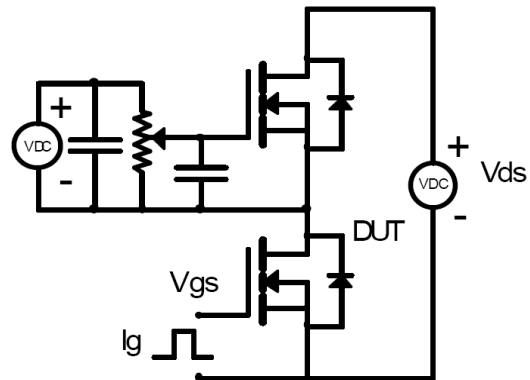
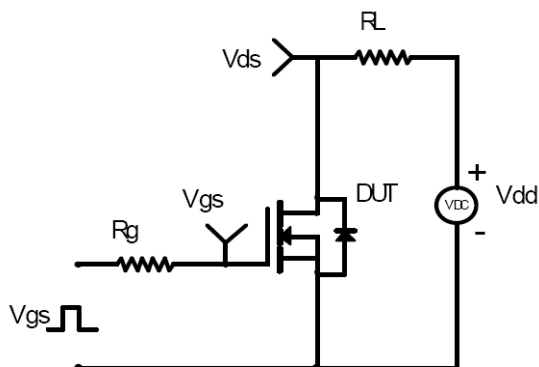
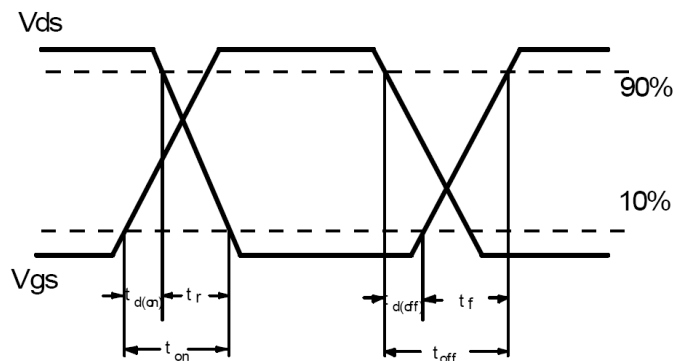

Description:

It utilizes the advanced trench processing techniques to achieve extremely low on resistance and low gate charge. These features combine to make this design an extremely efficient and reliable device for use in PWM, load switching and a wide variety of other applications.

Absolute max Rating:

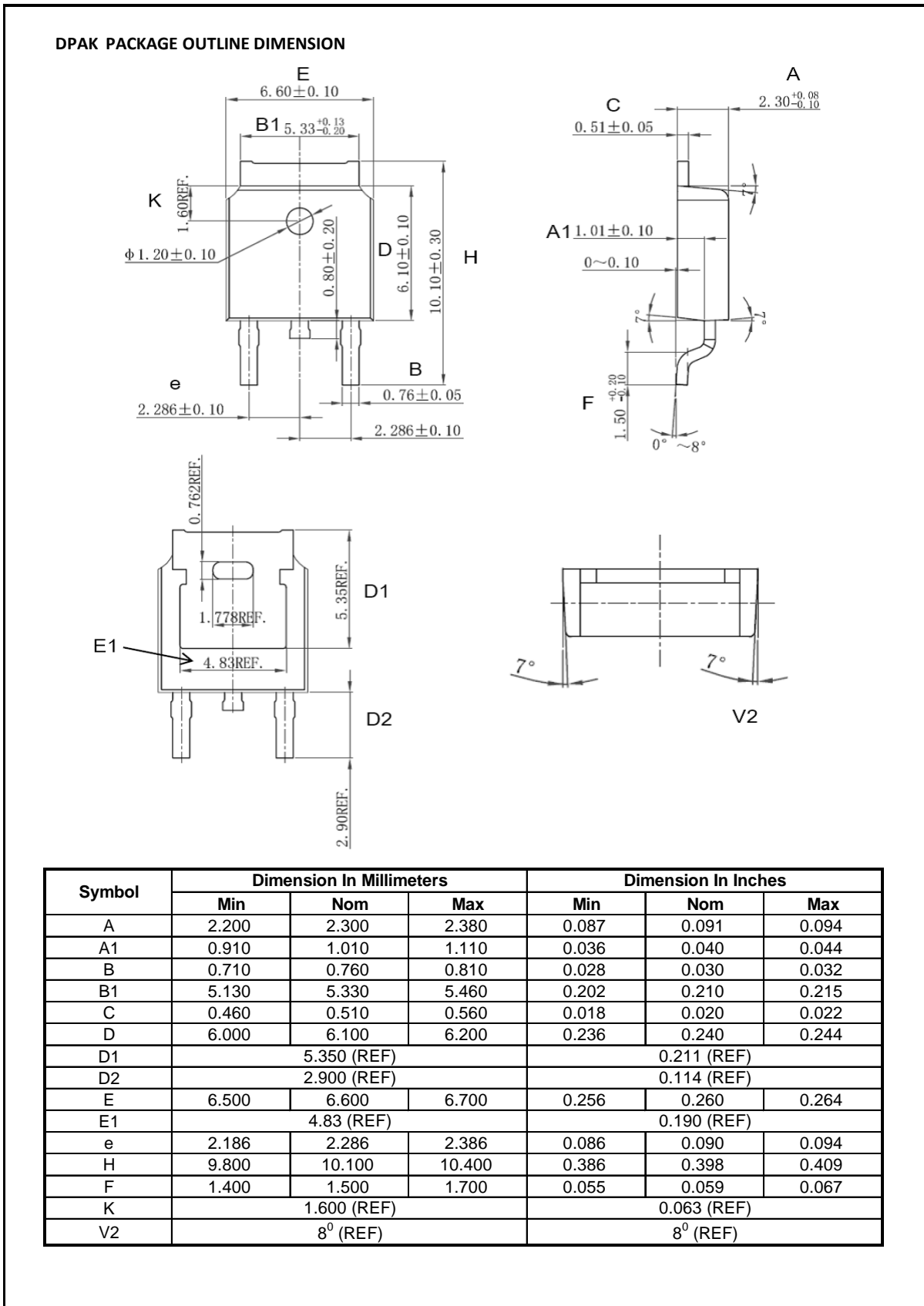
Symbol	Parameter	Max.	Units
$I_D @ T_C = 25^\circ\text{C}$	Continuous Drain Current, $V_{GS} @ 10\text{V}$ ①	-60	A
$I_D @ T_C = 100^\circ\text{C}$	Continuous Drain Current, $V_{GS} @ 10\text{V}$ ①	-50	
I_{DM}	Pulsed Drain Current②	-240	
I_{SM}	Pulsed Source Current (Body Diode)②	-240	
$P_D @ T_C = 25^\circ\text{C}$	Power Dissipation③	166	W
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-to-Source Voltage	± 20	V
E_{AS}	Single Pulse Avalanche Energy @ $L=0.3\text{mH}$	300	mJ
I_{AS}	Single Pulse Avalanche Current @ $L=0.3\text{mH}$	44	A
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to + 150	$^\circ\text{C}$

Test circuits and Wave forms

EAS Test Circuit:

Gate charge test circuit:

Switching Time Test Circuit:

Switching Waveforms:


Notes:

- ① Calculated continuous current based on maximum allowable junction temperature.
- ② Repetitive rating; pulse width limited by max. junction temperature.
- ③ The power dissipation P_D is based on max. junction temperature, using junction-to-case thermal resistance.
- ④ The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$

Mechanical Data:


Ordering and Marking Information
Device Marking: SSFD6025

Package (Available)
TO-252
Operating Temperature Range
C : -55 to 150°C

Devices per Unit
Option1:

Package Type	Units/Tape	Tapes/Inner Box	Units/Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO-252	2500	2	5000	7	35000

Option2:

Package Type	Units/Tape	Tapes/Inner Box	Units/Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO-252	2500	1	2500	10	25000

Reliability Test Program

Test Item	Conditions	Duration	Sample Size
High Temperature Reverse Bias(HTRB)	$T_j=125^{\circ}\text{C}$ to 150°C @ 80% of Max $V_{DSS}/V_{CES}/V_R$	168 hours 500 hours 1000 hours	3 lots x 77 devices
High Temperature Gate Bias(HTGB)	$T_j=150^{\circ}\text{C}$ @ 100% of Max V_{GSS}	168 hours 500 hours 1000 hours	3 lots x 77 devices

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