MOSPEC

07P30S

-30V P-Channel Enhancement Mode Power MOSFET

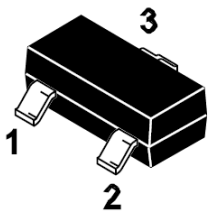
DESCRIPTION：

- Advanced Trench Technology
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

V_{DS}	-30V
I_D	-7A
$R_{DS(ON)_MAX}$@V_{GS}=-10V	26mΩ

TYPICAL APPLICATIONS：

- Power management
- Load switch
- PWM Application



SOT-23

MAXIMUM RATINGS (at T_C = 25 °C, unless otherwise specified)

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-7	A
Drain Curent-Pulsed	I_{DM}	-24	A
Power dissipation	P_D	1.4	W
Junction temperature Range	T_J	150	℃
Storage temperature Range	T_{STG}	-55~+150	℃

THERMAL CHARACTERISTICS

Characteristic	Condition	Symbol	Value	Unit
Thermal resistance,	Junction to Ambient	$R_{\theta JA}$	89	℃/W

ELECTRICAL CHARATERISTICS (at T_J = 25 °C, unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage VGS = 0V, ID = -250uA	$V_{(BR)DSS}$	-30			V
Zero Gate Voltage Drain Current VDS = -30 V, VGS = 0 V	I_{DSS}			-1	uA
Gate-Source Leakage Current VGS = ±20V, VDS = 0V	I_{GSS}			±100	nA
Gate-Source threshold voltage VDS = VGS, ID = -250uA	$V_{GS(th)}$	-1		-2.2	V
Drain-Source On-State Resistance VGS = -10V, ID = -3A VGS = -4.5V, ID = -2A	$R_{DS(on)}$			26 41	mΩ
Input capacitance f=1MHz, VDS=-15V, VGS=0 V	C_{iss}		670		pF
Output capacitance f=1MHz, VDS=-15V, VGS=0 V	C_{oss}		116		pF
Reverse transfer capacitance f=1MHz, VDS=-15V, VGS=0 V	C_{rss}		95		pF
Total Gate Charge VDS= -15V, VGS= -10V, ID=-6A	Qg		51		nC
Gate-Source Charge VDS= -15V, VGS= -10V, ID=-6A	Qgs		9.8		nC
Gate-Drain Charge VDS= -15V, VGS= -10V, ID=-6A	Qgd		8.2		nC
Turn-on delay time VDD= -15V, VGS=-10V, ID=-6A ,R_{GEN}=6Ω	td (ON)		13		nS
Rise time VDD= -15V, VGS=-10V, ID=-6A ,R_{GEN}=6Ω	tr		15		nS
Turn-off delay time VDD= -15V, VGS=-10V, ID=-6A ,R_{GEN}=6Ω	td (OFF)		198		nS
Fall time VDD= -15V, VGS=-10V, ID=-6A ,R_{GEN}=6Ω	tf		98		nS
Continuous Current	I_S			-7	A
Diode Forward Voltage VGS = 0V, IS =- 7A	V_{SD}			-1.2	V

Test Circuit

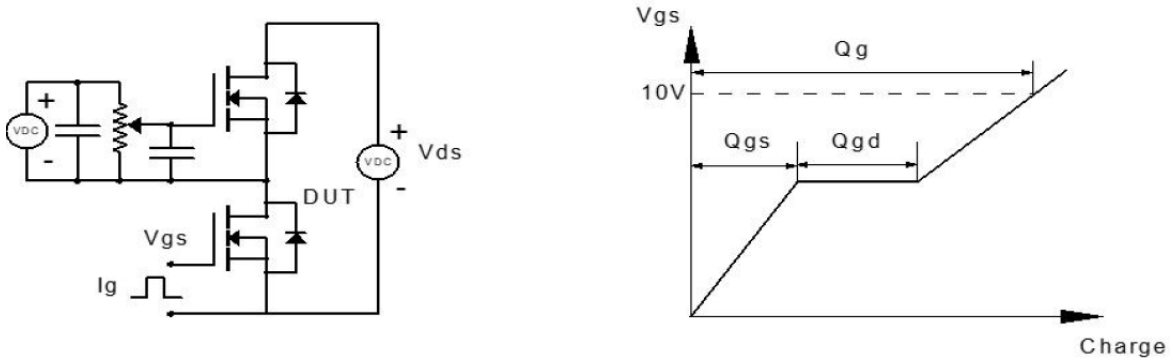


Figure 1: Gate Charge Test Circuit & Waveform

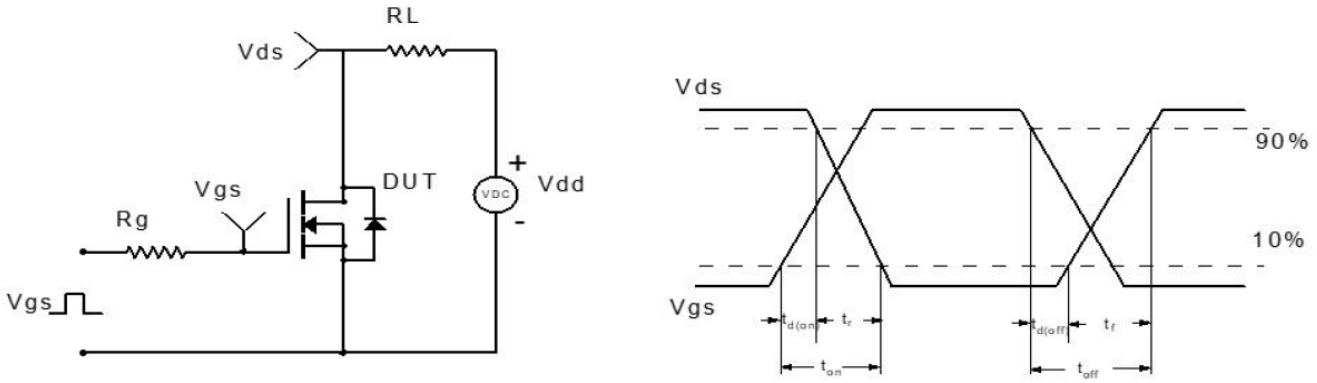


Figure 2: Resistive Switching Test Circuit & Waveform

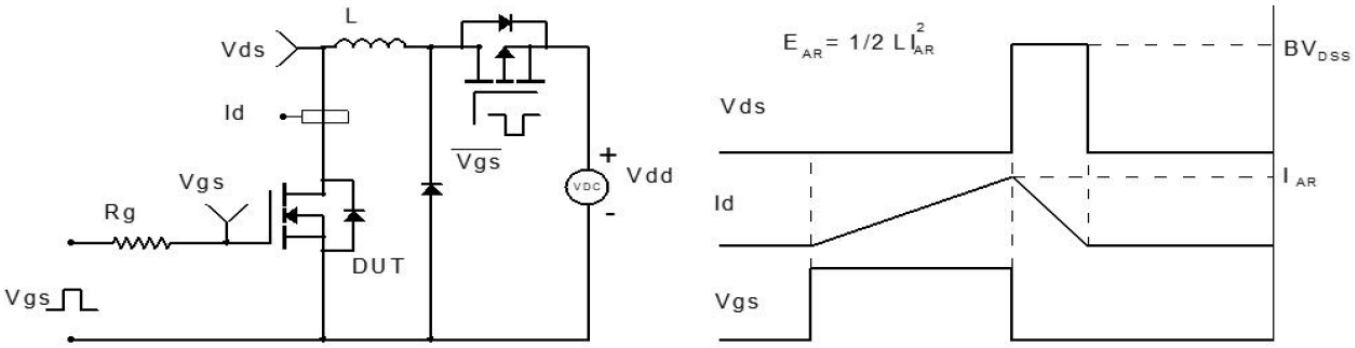


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

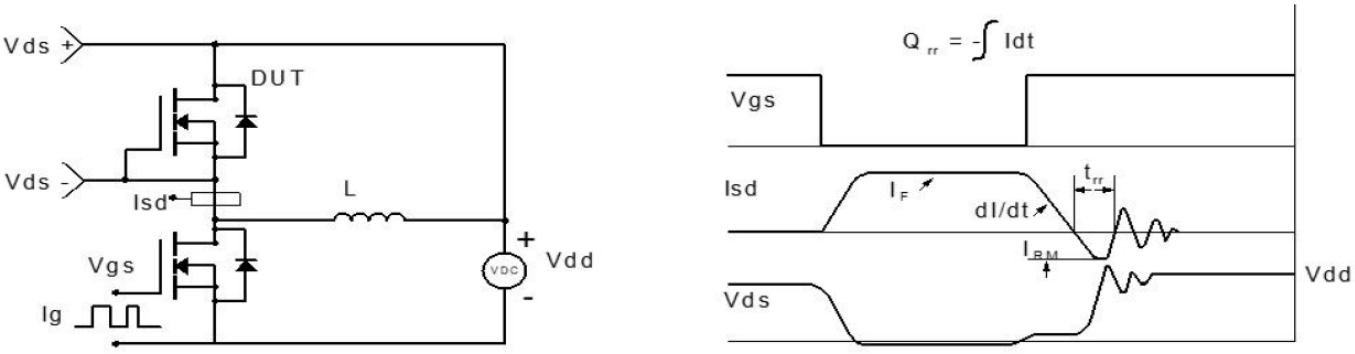
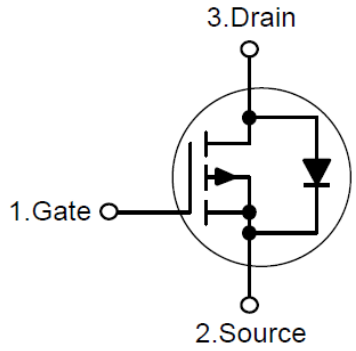
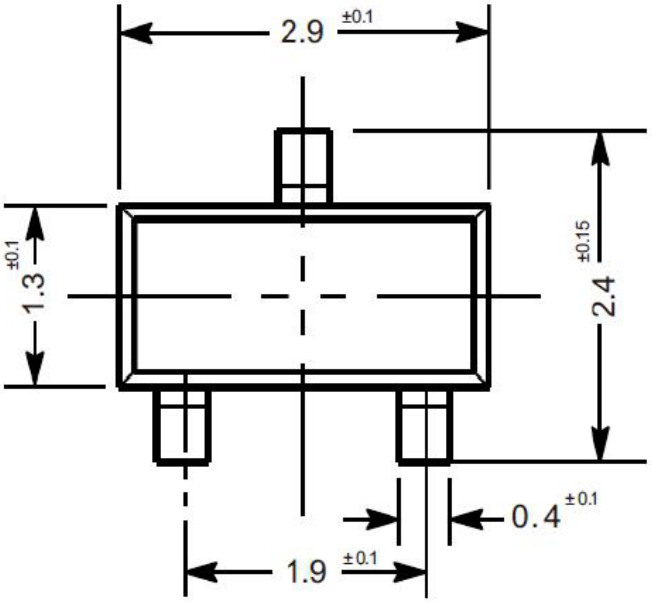


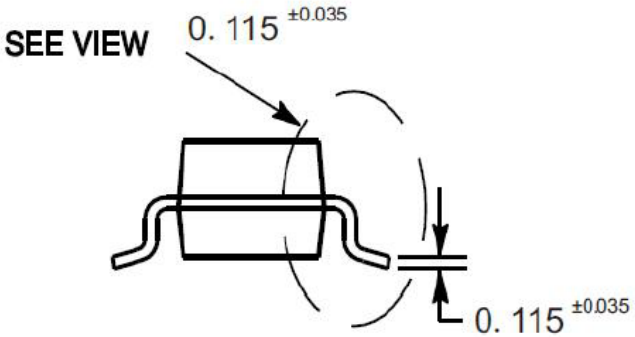
Figure 4: Diode Recovery Test Circuit & Waveform

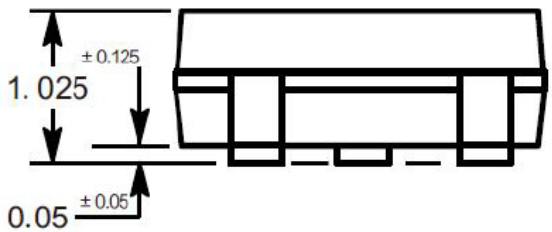
• Circuit diagram

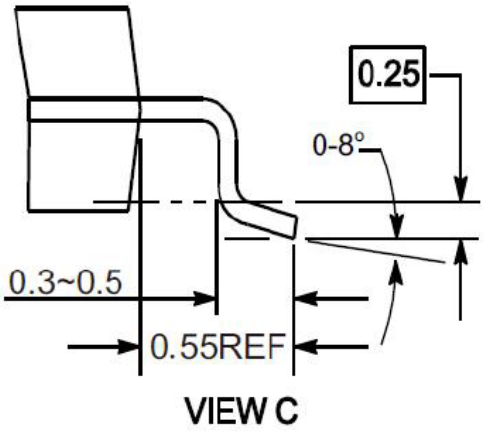


• Package outlines : Dimensions in (mm)









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