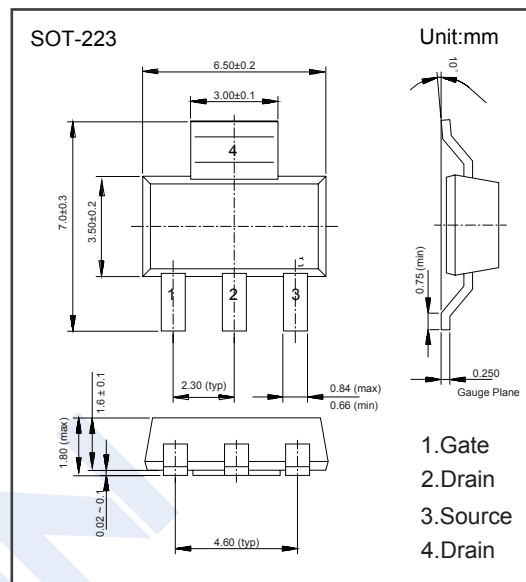
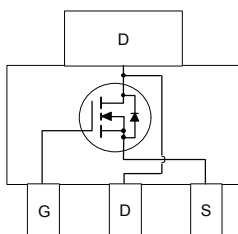


N-Channel MOSFET

BSP126 (KSP126)

■ Features

- $V_{DS} (V) = 250V$
- $I_D = 350mA$
- $R_{DS(ON)} < 7\Omega$ @ $V_{GS} = 10V$
- Direct interface to C-MOS, TTL, etc.
- High-speed switching.
- No secondary breakdown.

■ Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	250	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	350	mA
Pulsed Drain Current	I_{DM}	1.2	A
Power Dissipation	P_D	1.5	W
Thermal Resistance.Junction- to-Ambient (Note 1)	$R_{th j-a}$	83.3	K/W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-65 to 150	

Note 1. Device mounted on an epoxy printed-circuit board 40 mm×40 mm×1.5 mm; mounting pad for the drain lead min.6cm².

N-Channel MOSFET

BSP126 (KSP126)

Electrical Characteristics $T_A = 25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=10\text{ }\mu\text{A}$, $V_{GS}=0\text{V}$	250			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=200\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=1\text{mA}$	0.8		2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=300\text{mA}$			7	Ω
		$V_{GS}=2.4\text{V}$, $I_D=20\text{mA}$			10	
Forward Transconductance	g_{FS}	$V_{DS}=25\text{V}$, $I_D=300\text{mA}$	200			mS
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=25\text{V}$, $f=1\text{MHz}$		65	90	pF
Output Capacitance	C_{oss}			20	30	
Reverse Transfer Capacitance	C_{rss}			5	15	
Switching times (see Figs 2 and 3)	t_{on}	$V_{DD}=50\text{V}$, $I_D = 250\text{mA}$, $V_{GS}=0$ to 10V		5	10	ns
	t_{off}			20	30	
Diode Forward Voltage	V_{SD}	$I_S=350\text{mA}$, $V_{GS}=0\text{V}$			1.2	V

Marking

Marking	BSP126
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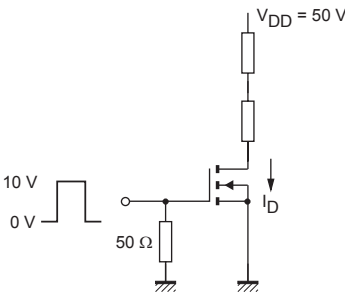


Fig.2 Switching time test circuit.

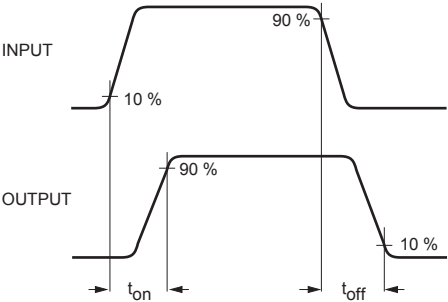


Fig.3 Input and output waveforms.

N-Channel MOSFET

BSP126 (KSP126)

■ Typical Characteristics

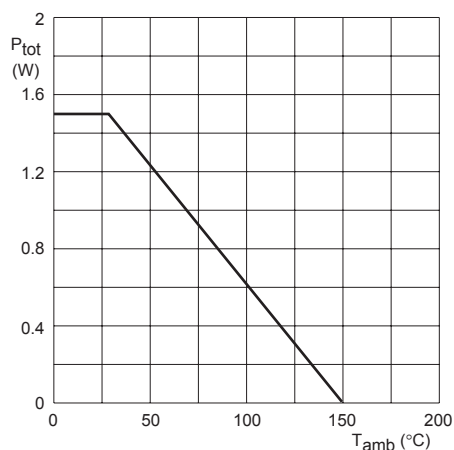
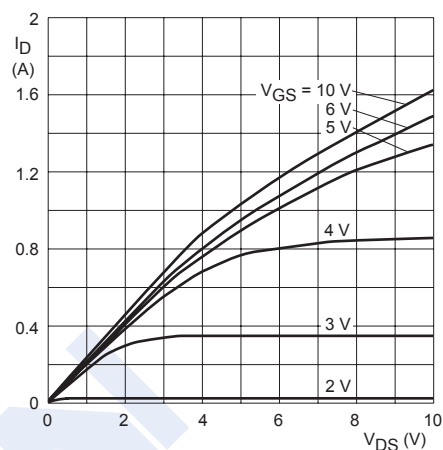
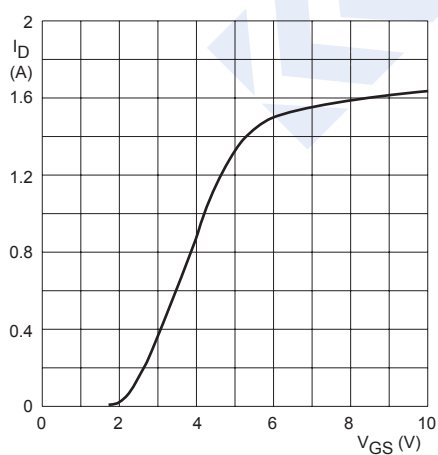
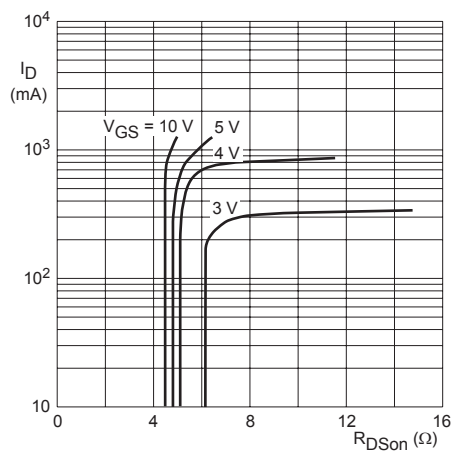


Fig.4 Power derating curve.

Fig.5 Output characteristics; $T_j = 25\text{ }^{\circ}\text{C}$; typical values.Fig.6 Transfer characteristic; $V_{DS} = 10\text{ V}$;
 $T_j = 25\text{ }^{\circ}\text{C}$; typical value.Fig.7 On-resistance as a function of drain current;
 $T_j = 25\text{ }^{\circ}\text{C}$; typical values.

N-Channel MOSFET

BSP126 (KSP126)

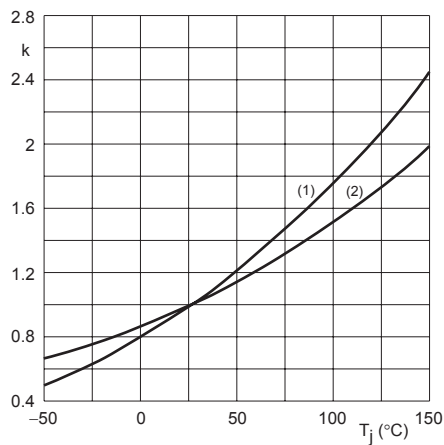


Fig.8 $k = \frac{R_{DS(on)} \text{ at } T_j}{R_{DS(on)} \text{ at } 25^\circ\text{C}}$; typical values.

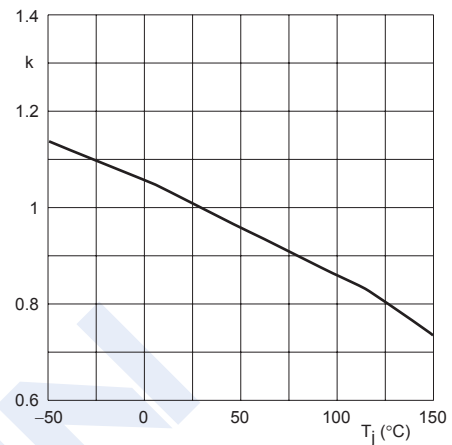


Fig.9 $k = \frac{V_{GS(th)} \text{ at } T_j}{V_{GS(th)} \text{ at } 25^\circ\text{C}}$; $V_{GS(th)}$ at 1 mA; typical values.

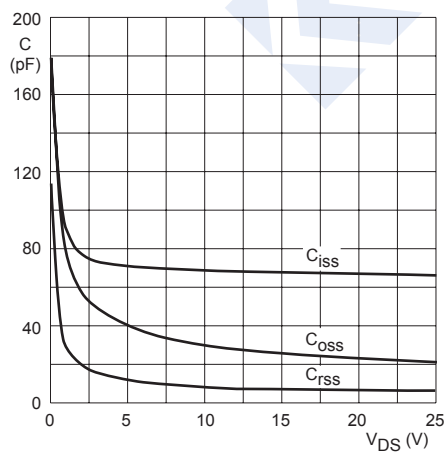


Fig.10 Capacitances as a function of drain-source voltage; $V_{GS} = 0$; $f = 1 \text{ MHz}$; $T_j = 25^\circ\text{C}$; typical values.