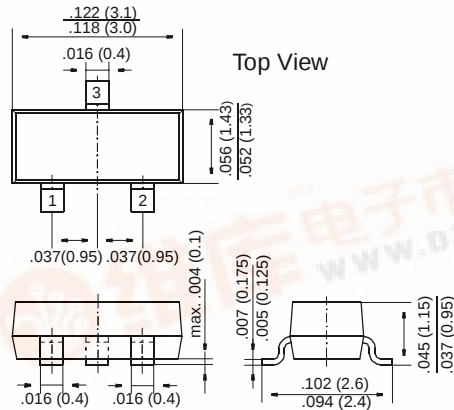


BS829

DMOS Transistors (P-Channel)

SOT-23



Dimensions in inches and (millimeters)

Pin configuration
1 = Gate, 2 = Source, 3 = Drain

FEATURES

- ◆ High input impedance
- ◆ Low gate threshold voltage
- ◆ Low drain-source ON resistance
- ◆ High-speed switching
- ◆ No minority carrier storage time
- ◆ CMOS logic compatible input
- ◆ No thermal runaway
- ◆ No secondary breakdown



MECHANICAL DATA

Case: SOT-23 Plastic Package

Weight: approx. 0.008 g

Marking

S29

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	400	V
Drain-Gate Voltage	$-V_{DG}$	400	V
Gate-Source Voltage (pulsed)	V_{GS}	± 20	V
Drain Current (continuous) at $T_{SB} = 50\text{ °C}$	$-I_D$	70	mA
Power Dissipation at $T_{SB} = 50\text{ °C}$	P_{tot}	350 ¹⁾	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-65 to +150	°C

¹⁾ Device on fiberglass substrate, see layout

Inverse Diode

	Symbol	Value	Unit
Max. Forward Current (continuous) at $T_{amb} = 25\text{ °C}$	I_F	350	mA
Forward Voltage Drop (typ.) at $V_{GS} = 0\text{ V}$, $I_F = 350\text{ mA}$, $T_j = 25\text{ °C}$	V_F	1.0	V

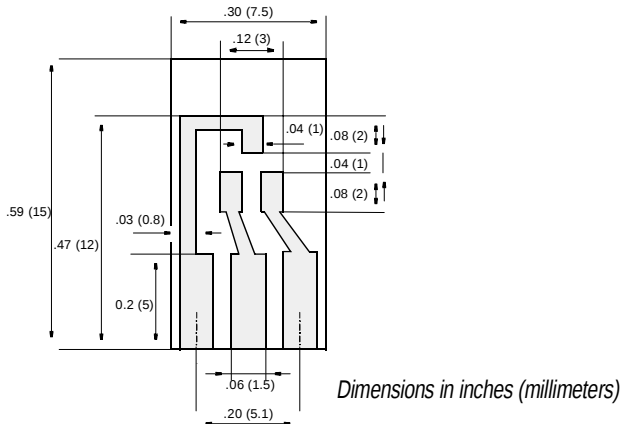
BS829

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $-I_D = 100 \mu A$, $V_{GS} = 0 V$	$-V_{(BR)DSS}$	400	430	—	V
Gate-Body Leakage Current, Forward at $-V_{GSF} = 20 V$, $V_{DS} = 0 V$	$-I_{GSSF}$	—	—	100	nA
Gate-Body Leakage Current, Reverse at $-V_{GSR} = 20 V$, $V_{DS} = 0 V$	$-I_{GSSR}$	—	—	100	nA
Drain Cutoff Current at $-V_{DS} = 400 V$, $V_{GS} = 0 V$	$-I_{DSS}$	—	—	500	μA
Gate-Source Threshold Voltage at $V_{GS} = V_{DS}$, $-I_D = 250 \mu A$	$-V_{GS(th)}$	1	1.5	2.5	V
Drain-Source ON Resistance at $V_{GS} = 5 V$, $-I_D = 100 mA$	$R_{DS(on)}$	—	40	50	Ω
Capacitance at $-V_{DS} = 25 V$, $V_{GS} = 0 V$, $f = 1 MHz$ Input Capacitance Output Capacitance Feedback Capacitance	C_{iss} C_{oss} C_{rss}	— — —	200 30 10	— — —	pF pF pF
Switching Times at $-V_{GS} = 10 V$, $-V_{DS} = 10 V$, $R_D = 100 \Omega$ Turn-On Time Turn-Off Time	t_{on} t_{off}	— —	10 50	— —	ns ns
Thermal Resistance Junction to Ambient Air	R_{thJA}	—	—	320 ¹⁾	K/W

¹⁾ Device on fiberglass substrate, see layout



Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)