

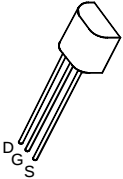
N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ISSUE 2 – SEPT 93

BS107PT

FEATURES

- * 200 Volt V_{DS}
- * $R_{DS(on)}=28\Omega$



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

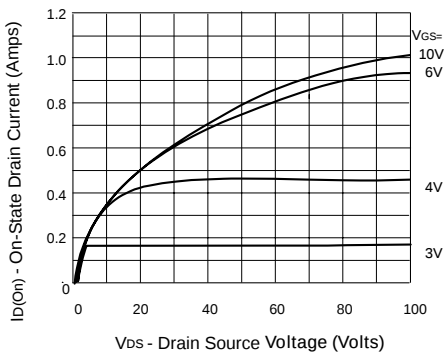
PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	200	V
Continuous Drain Current at $T_{amb}=25^{\circ}\text{C}$	I_D	0.12	A
Pulsed Drain Current	I_{DM}	2	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j: T_{stg}$	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$)

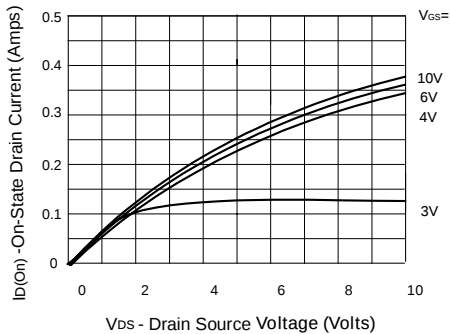
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	200	230		V	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$
Gate Body Leakage	I_{GSS}			10	nA	$V_{GS}=15\text{V}$, $V_{DS}=0\text{V}$
Drain Cut-Off Current	I_{DSS}			30	nA	$V_{GS}=0\text{V}$, $V_{DS}=130\text{V}$
Drain Cut-Off Current	I_{DSX}			1	μA	$V_{GS}=0.2\text{V}$, $V_{DS}=70\text{V}$
Static Drain-Source on-State Resistance	$R_{DS(on)}$		15	28 30	Ω Ω	$V_{GS}=2.6\text{V}$, $I_D=20\text{mA}^*$ $V_{GS}=2.7\text{V}$, $I_D=100\text{mA}^*$

* Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

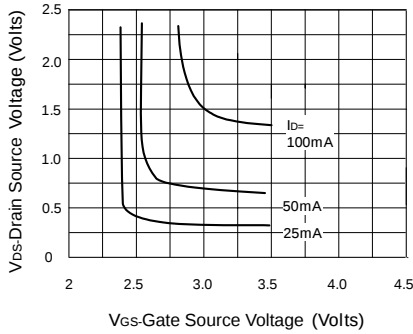
TYPICAL CHARACTERISTICS



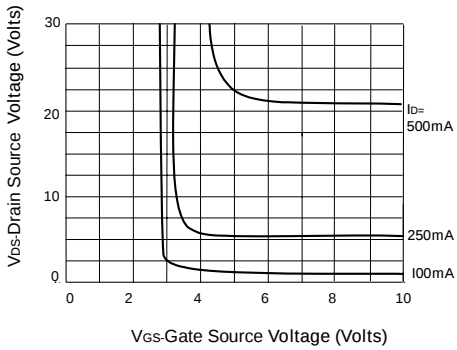
Output Characteristics



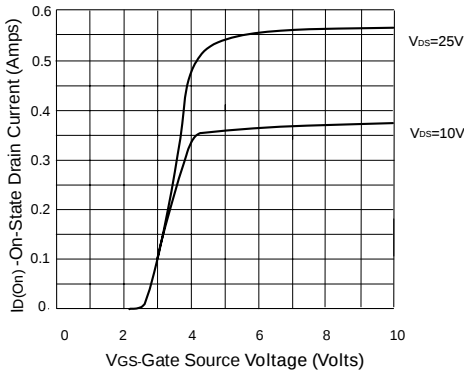
Saturation Characteristics



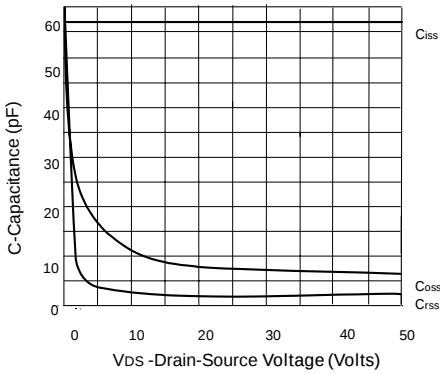
Voltage Saturation Characteristics



Voltage Saturation Characteristics



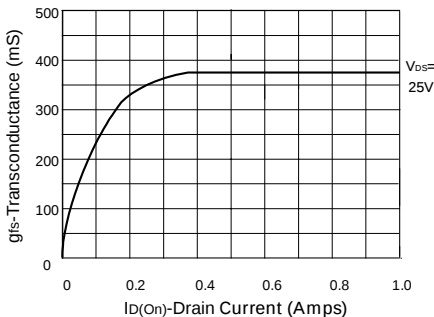
Transfer characteristics



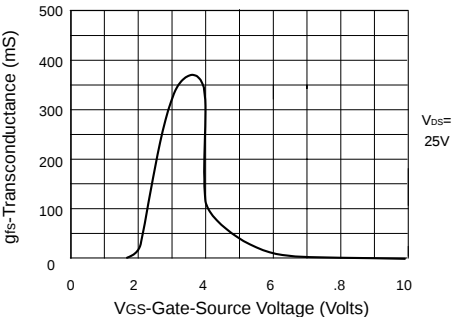
Capacitance v drain-source voltage

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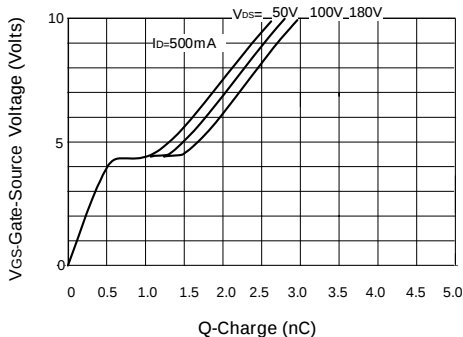
TYPICAL CHARACTERISTICS



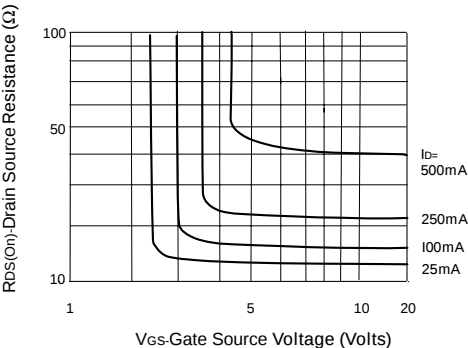
Transconductance v drain current



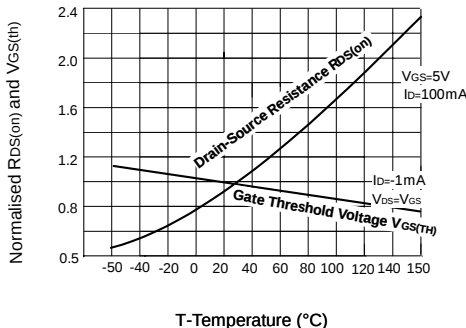
Transconductance v gate-source voltage



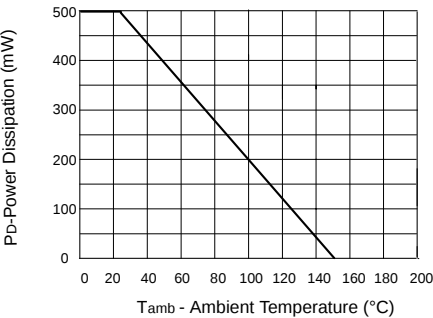
Gate charge v gate-source voltage



Gate charge v gate-source voltage



Normalised RDS(on) and VGS(th) v Temperature



Power v temperature derating curve

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