

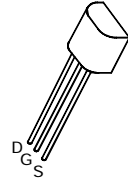
# N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

## BS107PT

ISSUE 2 – SEPT 93

### FEATURES

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



E-Line  
TO92 Compatible

### ABSOLUTE MAXIMUM RATINGS.

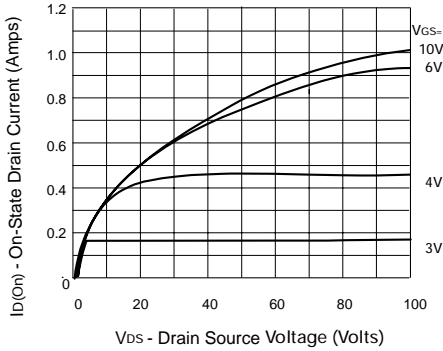
PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	200	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	$I_D$	0.12	A
Pulsed Drain Current	$I_{DM}$	2	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	500	mW
Operating and Storage Temperature Range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

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

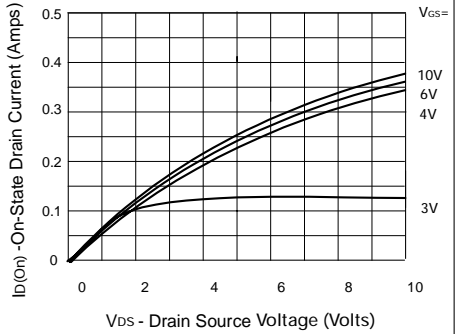
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	200	230		V	$I_D=100\mu A, V_{GS}=0V$
Gate Body Leakage	$I_{GSS}$			10	nA	$V_{GS}=15V, V_{DS}=0V$
Drain Cut-Off Current	$I_{DSS}$			30	nA	$V_{GS}=0V, V_{DS}=130V$
Drain Cut-Off Current	$I_{DSX}$			1	$\mu A$	$V_{GS}=0.2V,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

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

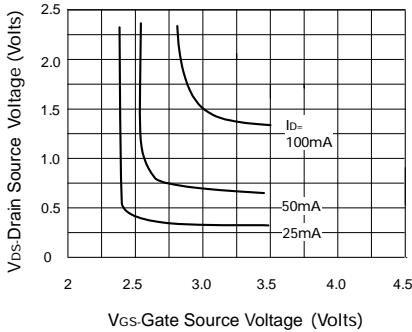
## TYPICAL CHARACTERISTICS



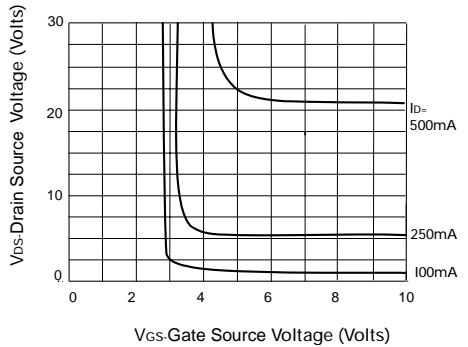
**Output Characteristics**



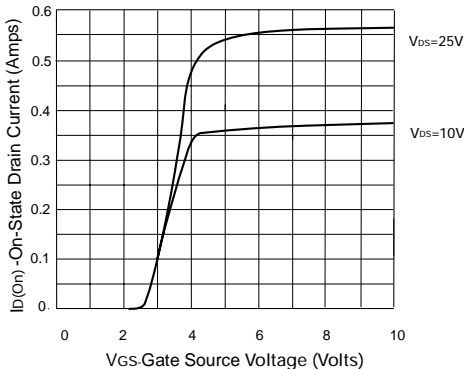
**Saturation Characteristics**



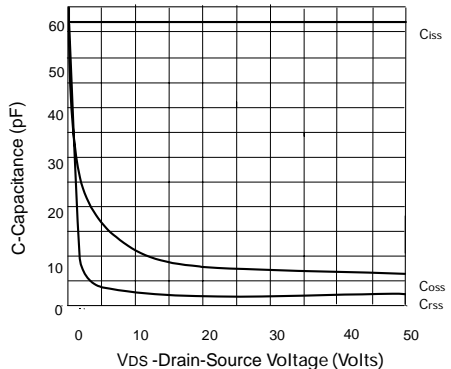
**Voltage Saturation Characteristics**



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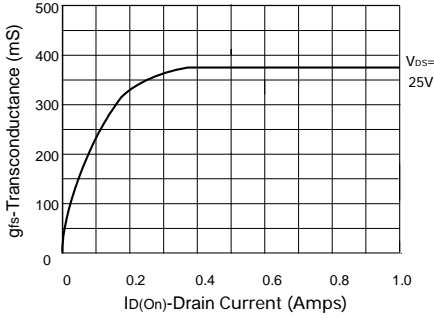
**Transfer characteristics**



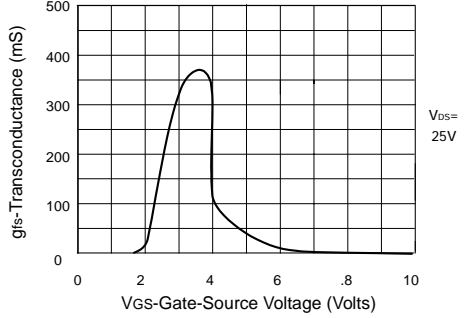
**Capacitance v drain-source voltage**

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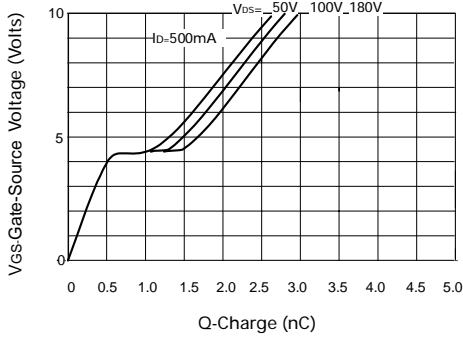
## TYPICAL CHARACTERISTICS



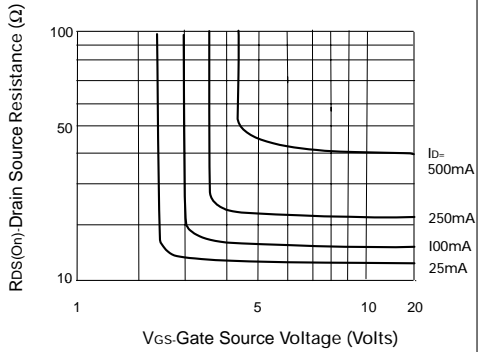
**Transconductance v drain current**



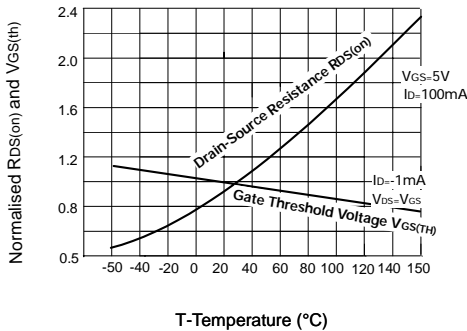
**Transconductance v gate-source voltage**



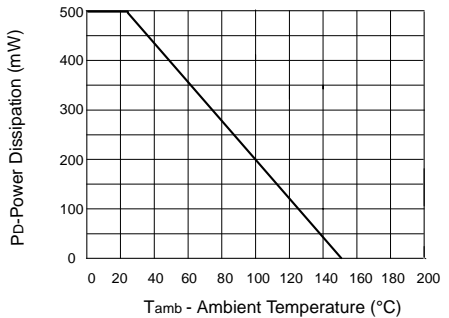
**Gate charge v gate-source voltage**



**Gate charge v gate-source voltage**



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



**Power v temperature derating curve**



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