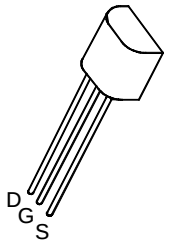
N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ISSUE 2 – SEPT 93

BS107PT

FEATURES

* 200 Volt V_{DS}
* $R_{DS(on)}$=28Ω



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°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°C	P_{tot}	500	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

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

* Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

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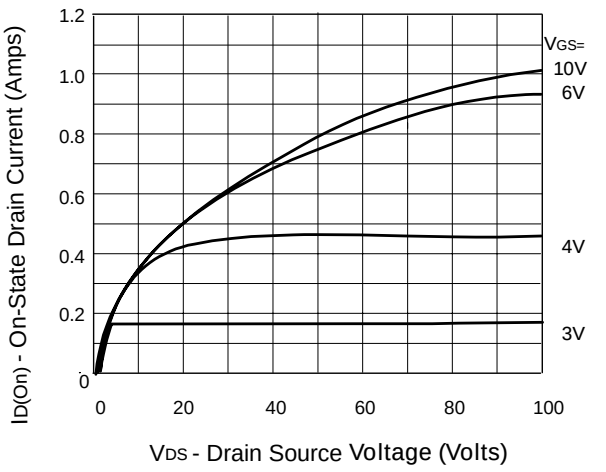
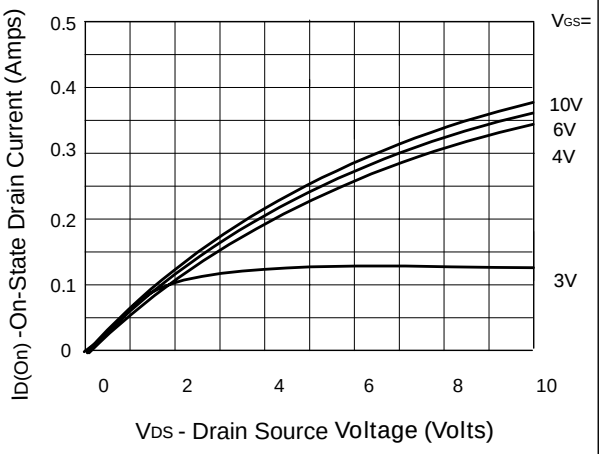
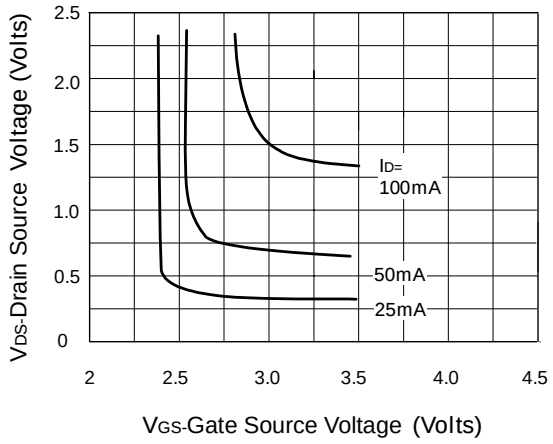
TYPICAL CHARACTERISTICS



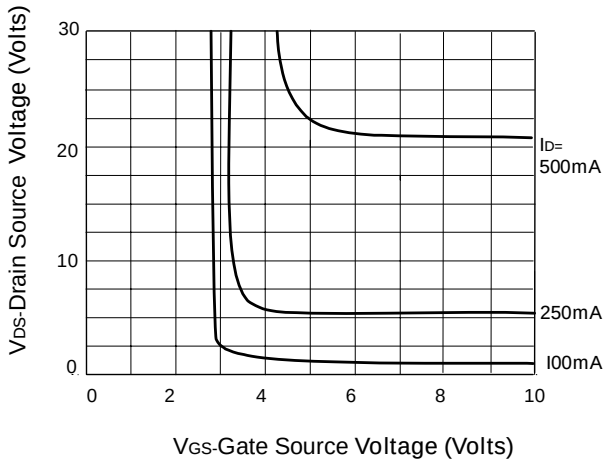
Output Characteristics



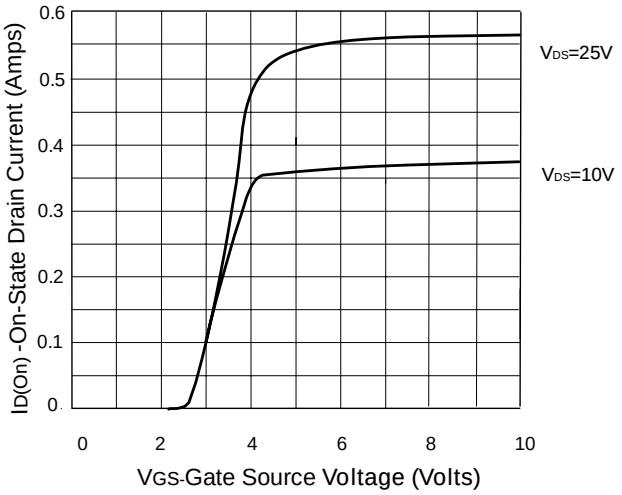
Saturation Characteristics



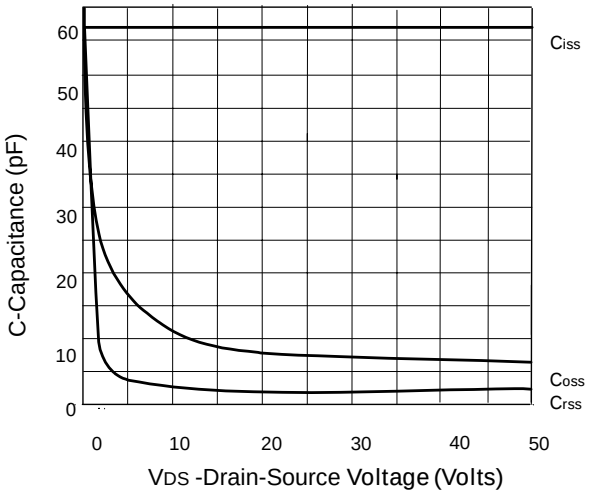
Voltage Saturation Characteristics



Voltage Saturation Characteristics



Transfer characteristics



Capacitance v drain-source voltage

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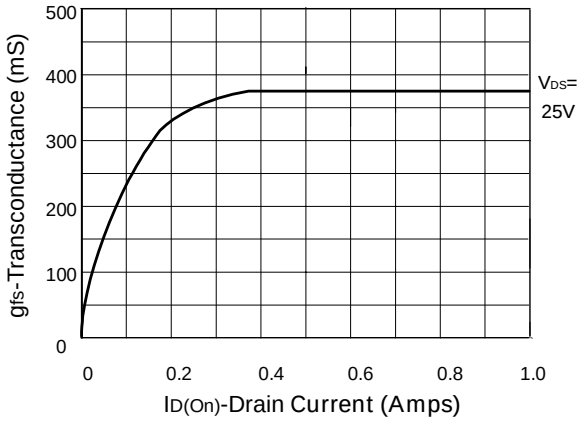
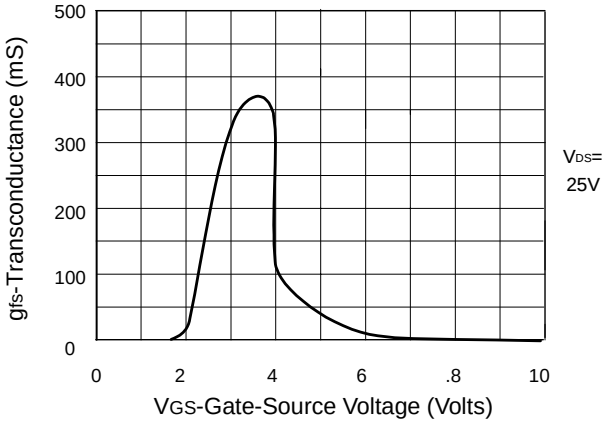
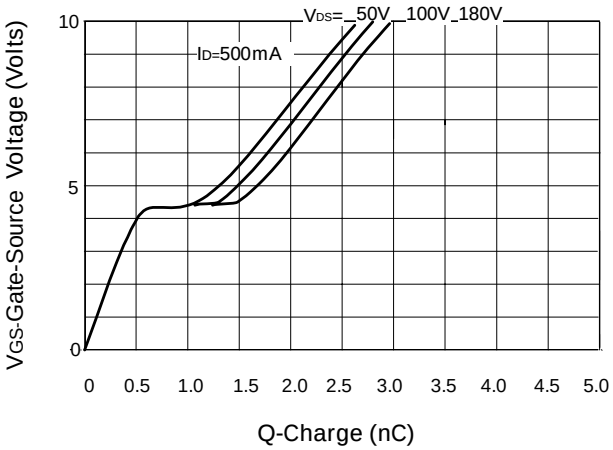
TYPICAL CHARACTERISTICS



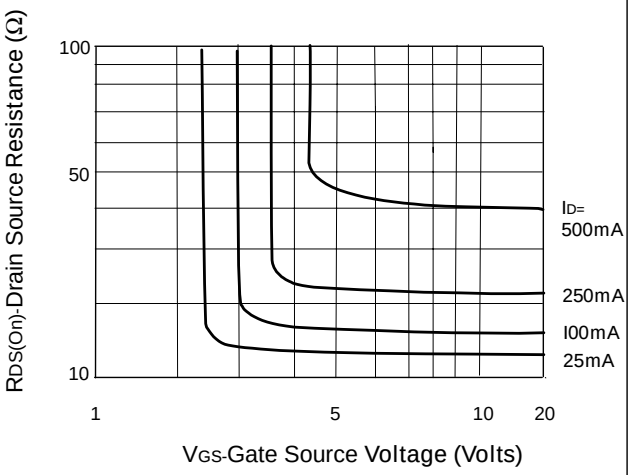
Transconductance v drain current



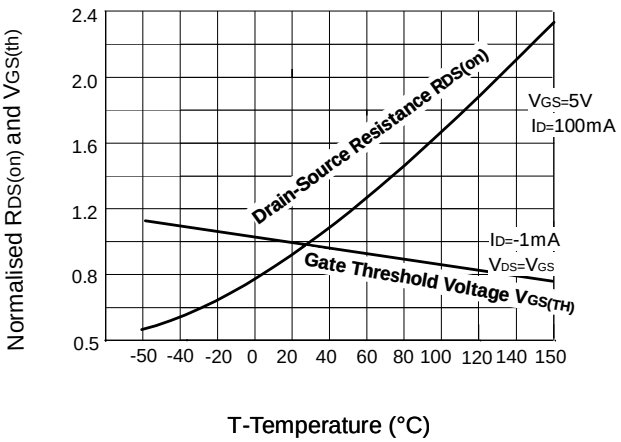
Transconductance v gate-source voltage



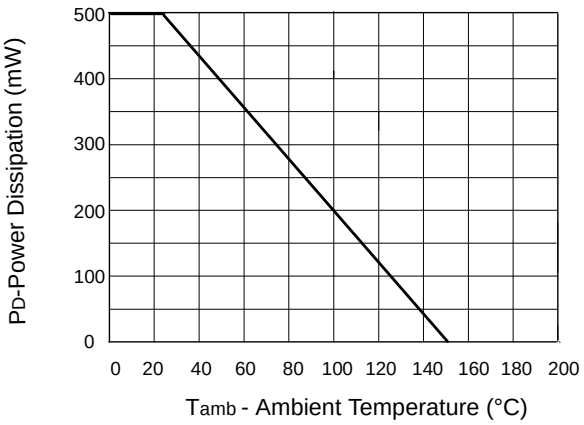
Gate charge v gate-source voltage



Gate charge v gate-source voltage



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



Power v temperature derating curve