

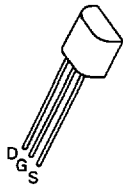
N-CHANNEL ENHANCEMENT
MODE VERTICAL DMOS FET

BS107PT

ISSUE 2 – SEPT 93

FEATURES

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



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

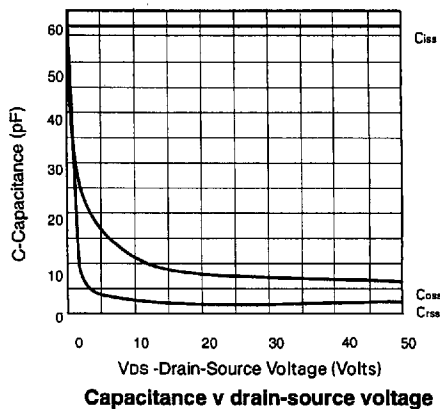
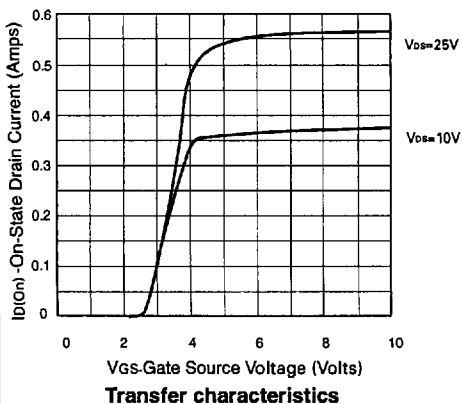
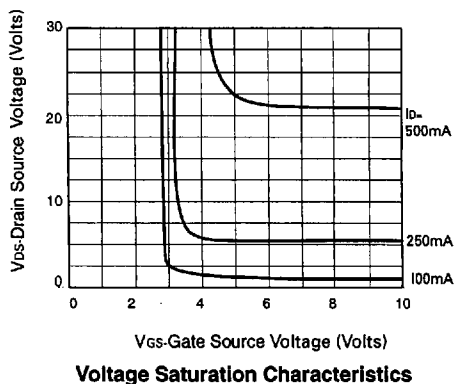
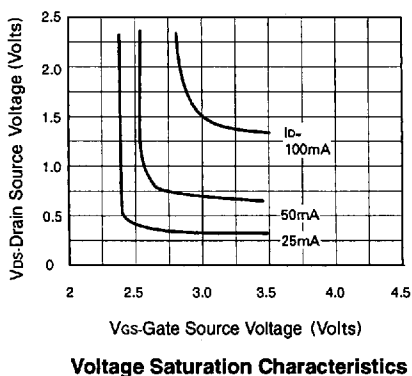
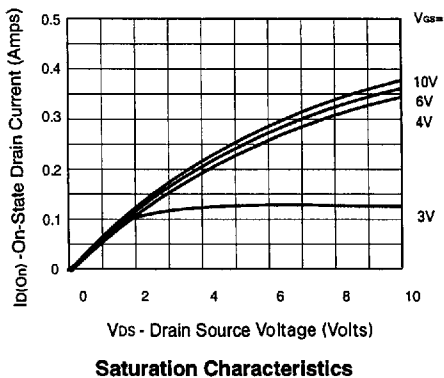
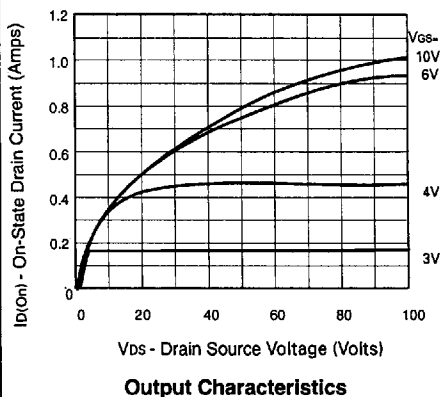
PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	200	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	I_D	0.12	A
Pulsed Drain Current	I_{DM}	2	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-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	μA	$V_{GS}=0.2V, V_{DS}=70V$
Static Drain-Source on-State Resistance	$R_{DS(on)}$		15	28 30	Ω Ω	$V_{GS}=2.6V, I_D=20mA^*$ $V_{GS}=2.7V, I_D=100mA^*$

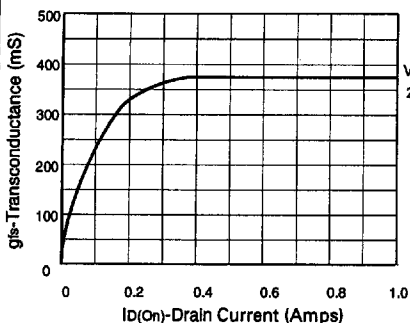
* Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS

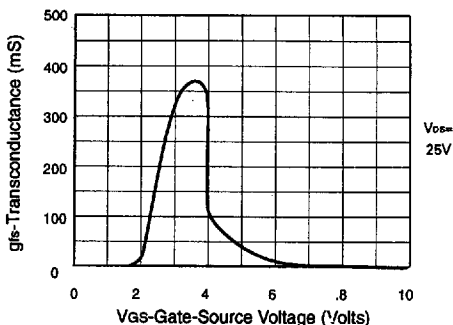


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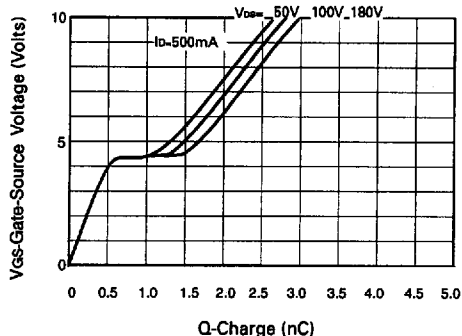
TYPICAL CHARACTERISTICS



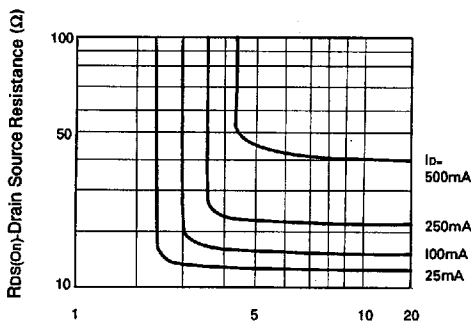
Transconductance v drain current



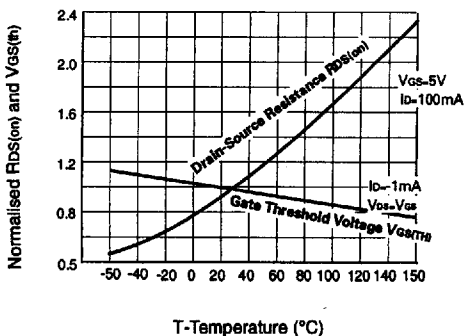
Transconductance v gate-source voltage



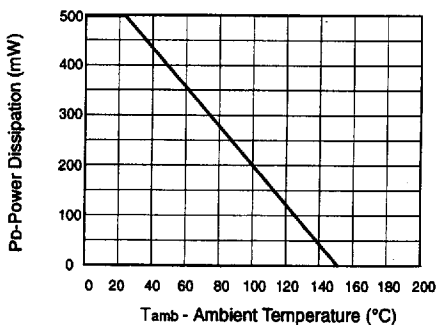
Gate charge v gate-source voltage



Gate charge v gate-source voltage



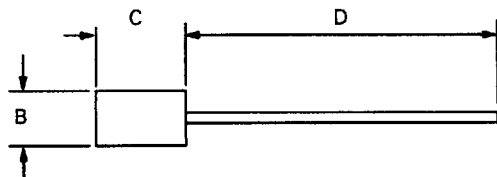
Normalised $R_{DS(on)}$ and $V_{GS(th)}$ v Temperature



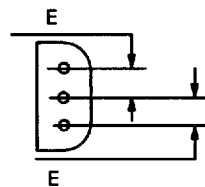
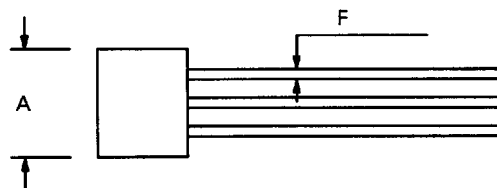
Power v temperature derating curve

E-Line Package Dimensions

3 Pin Device



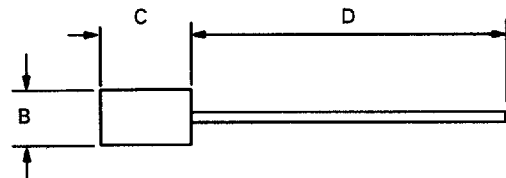
DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.37	4.77	0.172	0.188
B	2.16	2.41	0.085	0.095
C	3.61	4.01	0.142	0.158
D	13.00	13.97	0.512	0.550
E	NOM 1.27		NOM 0.05	
F	0.37	0.495	0.016	0.0195



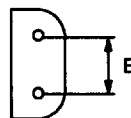
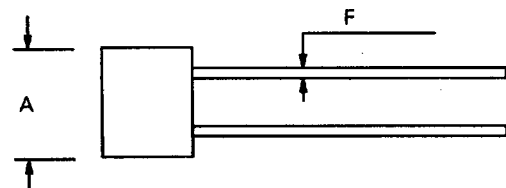
Leads to pass through a hole 0.7mm dia.

Various lead forms are offered, details of which are available on request.

2 Pin Device

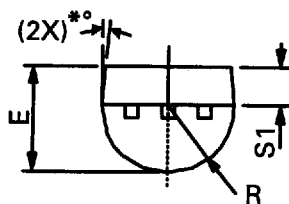
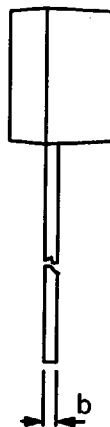
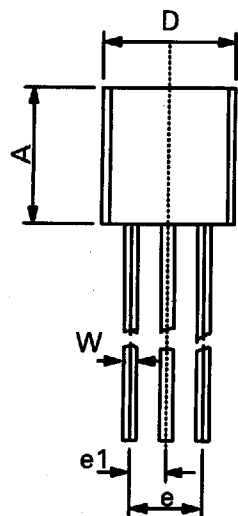


DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.37	4.77	0.172	0.188
B	2.16	2.41	0.085	0.095
C	3.61	4.01	0.142	0.158
D	13.00	13.97	0.512	0.550
E	NOM 2.54		NOM 0.10	
F	0.37	0.495	0.016	0.0195



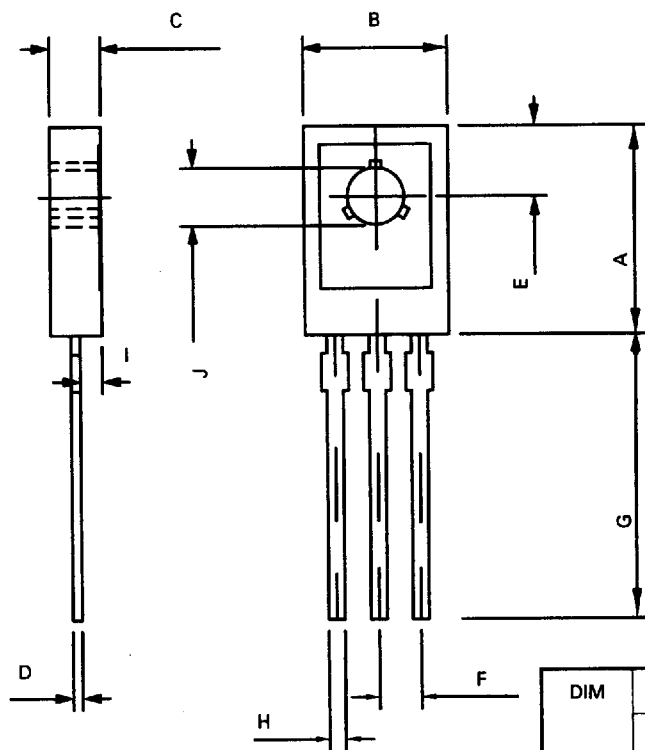
Leads to pass through a hole 0.7mm dia.

T092 Package Dimensions



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.32	4.95	0.170	0.195
b	0.36	0.51	0.014	0.020
E	3.30	3.94	0.130	0.155
e	2.41	2.67	0.095	0.105
e1	1.14	1.40	0.045	0.055
L	12.70	15.49	0.500	0.610
R	2.16	2.41	0.085	0.095
S1	1.14	1.52	0.045	0.060
W	0.41	0.56	0.016	0.022
D	4.45	4.95	0.175	0.195
°	4°	6°	4°	6°

TO126 Package Dimensions



DIM	Millimeters	
	Min	Max
A		11.1
B		7.80
C		2.80
D	0.50 typical	
E	3.75 typical	
F	2.29 typical	
G	15.3	
H		0.88
I	1.2 typical	
J	3.00	3.20