ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Zero−Gate−Voltage Drain Current (V_{DS} = 130 Vdc, V_{GS} = 0)	I_{DSS}	–	–	30	nAdc
Drain−Source Breakdown Voltage (V_{GS} = 0, I_D = 100 μAdc)	$V_{(BR)DSX}$	200	–	–	Vdc
Gate Reverse Current (V_{GS} = 15 Vdc, V_{DS} = 0)	I_{GSS}	–	0.01	10	nAdc
ON CHARACTERISTICS (Note 3)					
Gate Threshold Voltage (I_D = 1.0 mAdc, V_{DS} = V_{GS})	$V_{GS(Th)}$	1.0	–	3.0	Vdc
Static Drain−Source On Resistance	$r_{DS(on)}$				Ω
BS107 (V_{GS} = 2.6 Vdc, I_D = 20 mAdc)		–	–	28	
(V_{GS} = 10 Vdc, I_D = 200 mAdc)		–	–	14	
BS107A (V_{GS} = 10 Vdc)					
(I_D = 100 mAdc)		–	4.5	6.0	
(I_D = 250 mAdc)		–	4.8	6.4	
SMALL−SIGNAL CHARACTERISTICS					
Input Capacitance (V_{DS} = 25 Vdc, V_{GS} = 0, f = 1.0 MHz)	C_{iss}	–	60	–	pF
Reverse Transfer Capacitance (V_{DS} = 25 Vdc, V_{GS} = 0, f = 1.0 MHz)	C_{rss}	–	6.0	–	pF
Output Capacitance (V_{DS} = 25 Vdc, V_{GS} = 0, f = 1.0 MHz)	C_{oss}	–	30	–	pF
Forward Transconductance (V_{DS} = 25 Vdc, I_D = 250 mAdc)	g_{fs}	200	400	–	mmhos
SWITCHING CHARACTERISTICS					
Turn−On Time	t_{on}	–	6.0	15	ns
Turn−Off Time	t_{off}	–	12	15	ns

3. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

RESISTIVE SWITCHING

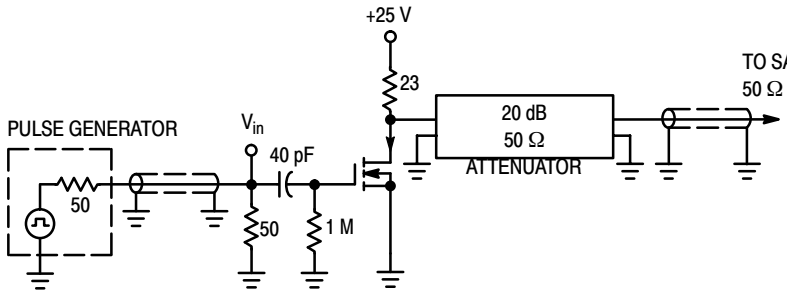


Figure 1. Switching Test Circuit

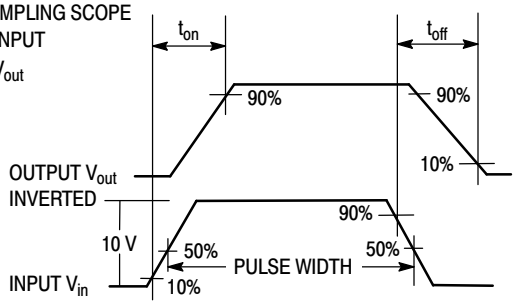


Figure 2. Switching Waveforms

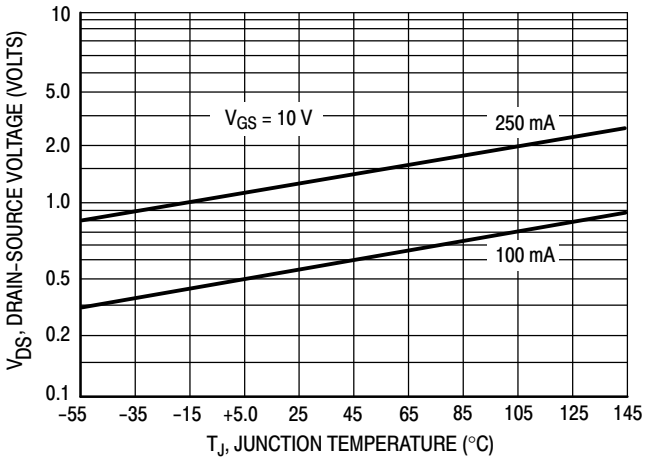


Figure 3. On Voltage versus Temperature

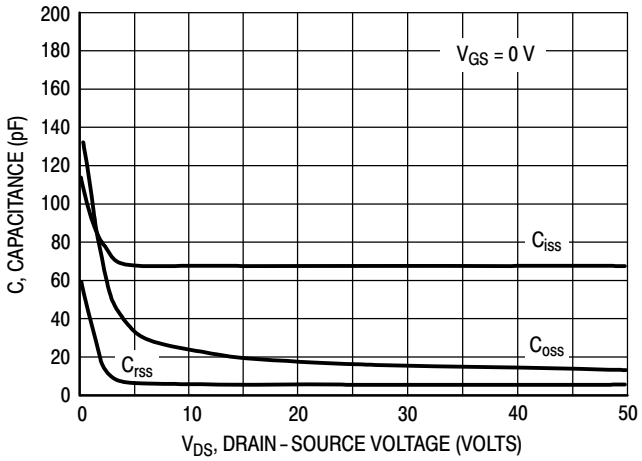


Figure 4. Capacitance Variation

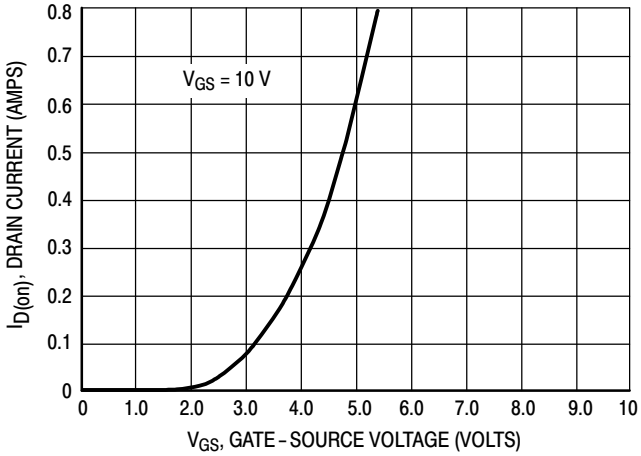


Figure 5. Transfer Characteristic

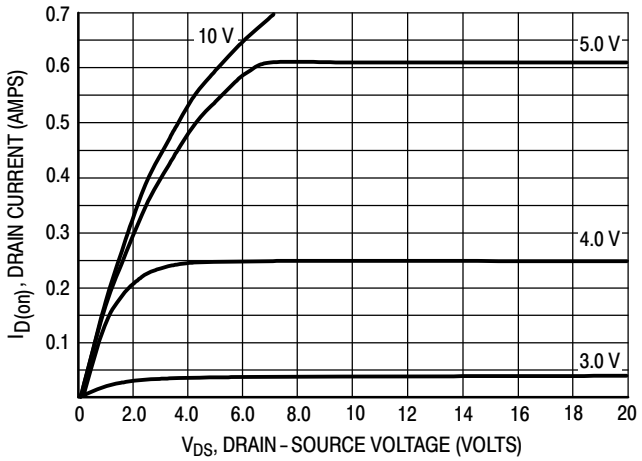


Figure 6. Output Characteristic

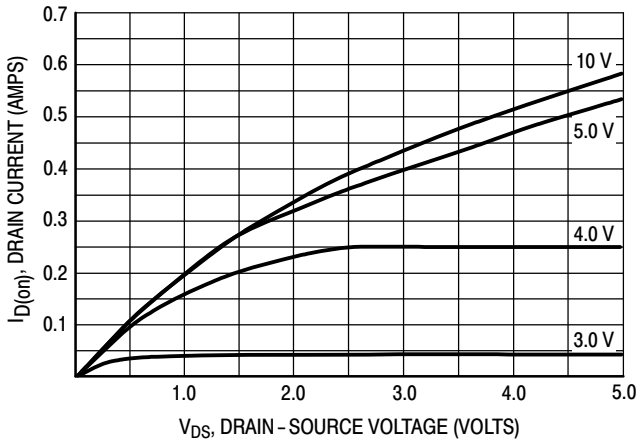
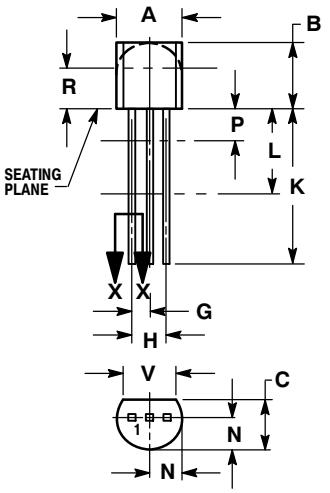


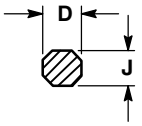
Figure 7. Saturation Characteristic

PACKAGE DIMENSIONS

TO−92 (TO−226)
CASE 29−11
ISSUE AM



STRAIGHT LEAD
BULK PACK



SECTION X−X

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

STYLE 30:
PIN 1. DRAIN
2. GATE
3. SOURCE

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