

**/ Descriptions**

TO-251          N      MOS          N-CHANNEL MOSFET in a TO-251 Plastic Package.

**/ Features**

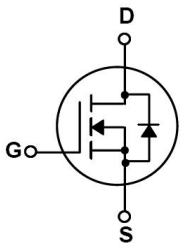
Super high dense cell design for low  $R_{DS(on)}$ , Rugged and reliable,surface.

**/ Applications**

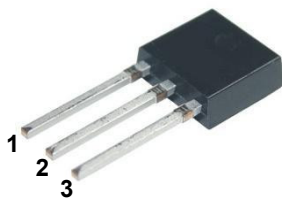
DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 G          PIN 2 D          PIN 3 S

**/ h<sub>FE</sub> Classifications & Marking**

See Marking Instructions.

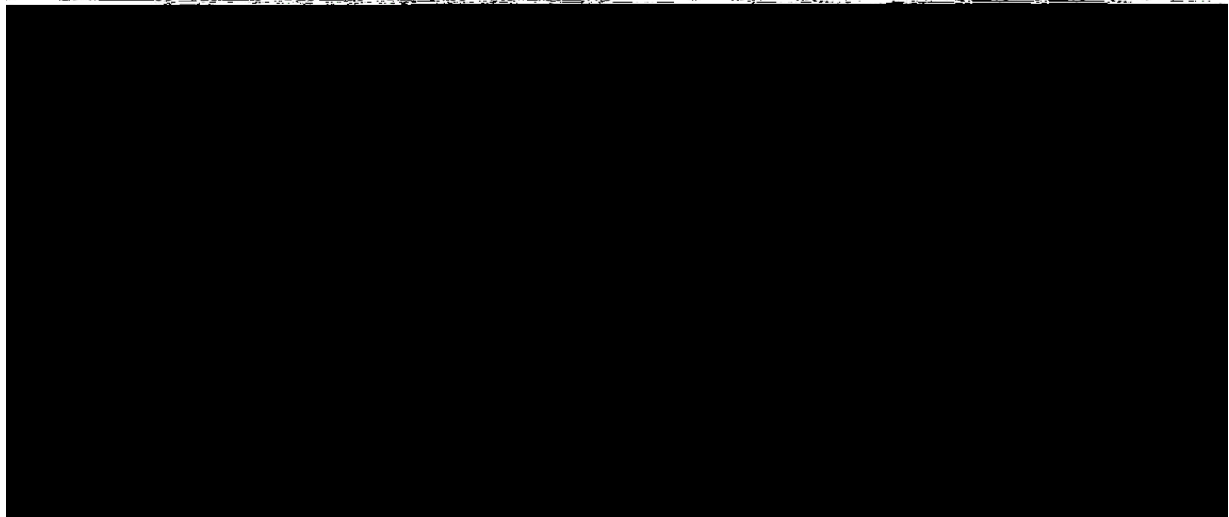
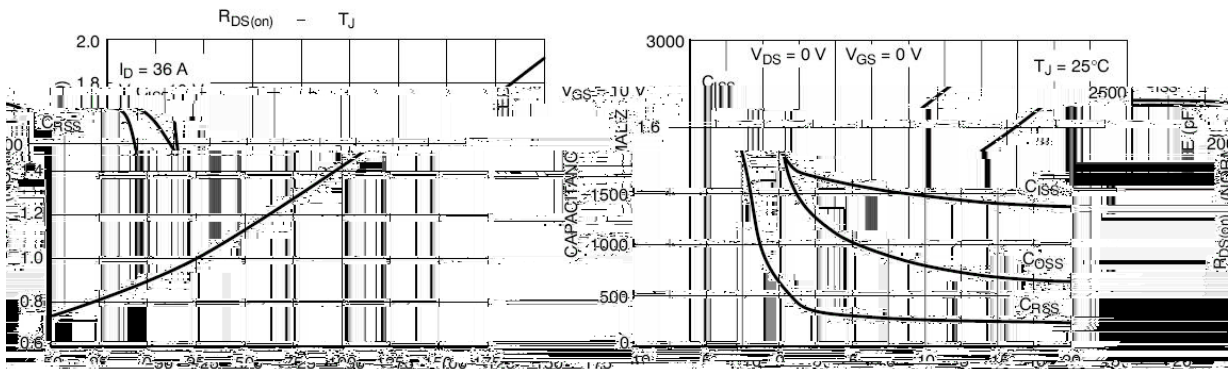
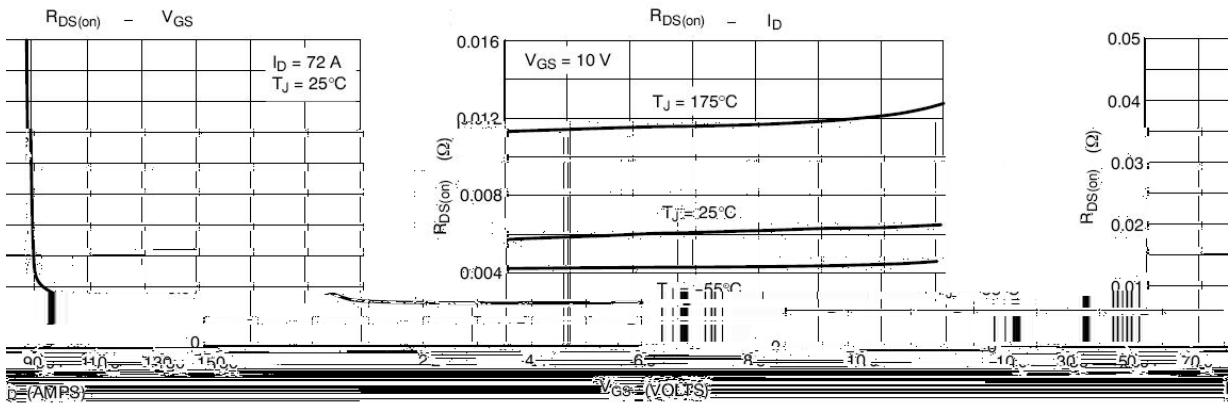
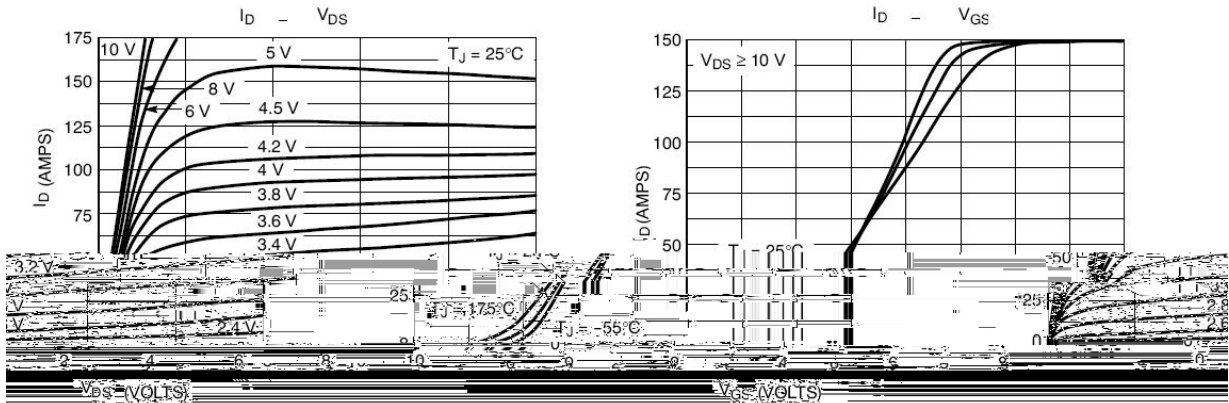
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	30	V
Drain Current	$I_D(T_C=25)$	62.8	A
Drain Current – Pulsed	$I_{DM}$	140	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Single Pulsed Avalanche Energy	$E_{SA}$	71.7	mJ
Power Dissipation	$P_D$	1.36	W
Power Dissipation ( $T_A=25$ )	$P_D(T_C=25)$	62.5	W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	$^{\circ}C$
Thermal Resistance, Junction-to-Ambient	$R_{JA}$	110	$^{\circ}C/W$

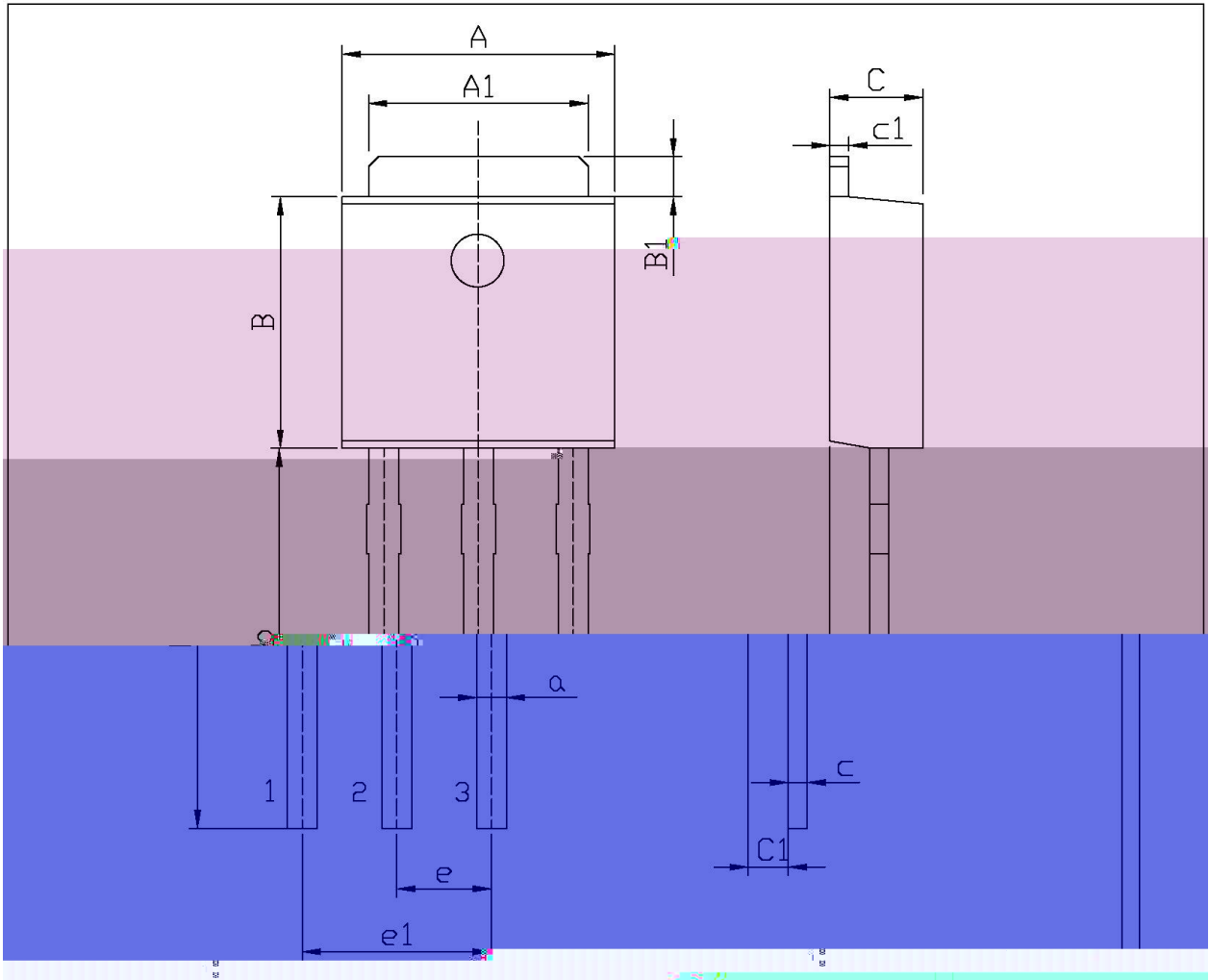
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V$ $V_{GS}=0V$			1.5	$\mu A$
Gate-Body Leakage Current, Forward	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.2	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		5.6	8.0	m
		$V_{GS}=4.5V$ $I_D=20A$		8.1	13	m
Forward Transconductance	$g_{FS}$	$V_{DS}=10V$ $I_D=15A$		27		S
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=20A$			1.2	V
Input Capacitance	$C_{iss}$	$V_{DS}=20V$ $V_{GS}=0V$ $f=1.0MHz$		1333		pF
Output Capacitance	$C_{oss}$			600		
Reverse Transfer Capacitance	$C_{rss}$			218		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V$ $I_D=36A$ $V_{GS}=10V$ $R_G=3.0$		6.9		ns
Turn-On Rise Time	$t_r$			1.3		
Turn-Off Delay Time	$t_{d(off)}$			18.4		
Turn-Off Fall Time	$t_f$			5.5		

**/ Electrical Characteristic Curve**



**/ Package Dimensions**

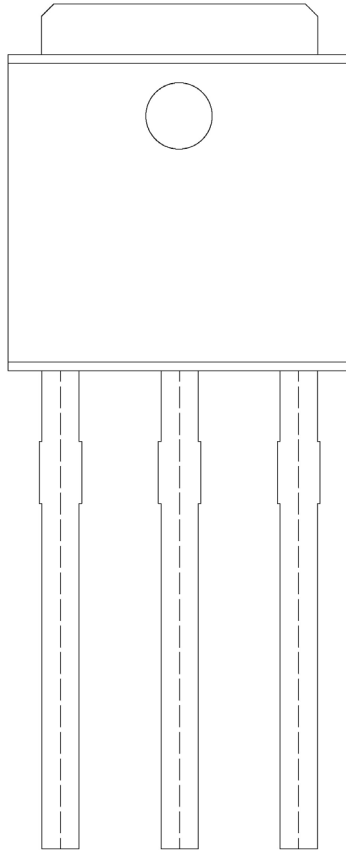


单位: mm

Dimensions in Millimeters		Symbol	Dimensions in Millimeters		Symbol
Min	Max		Min	Max	
6.45	6.75	a	0.50	0.70	A
5.10	5.50	b	9.00	9.40	A1
0.95	1.25	c1	0.45	0.55	B1
2.20	2.40	e	2.24	2.34	C
0.95	1.15	e1	4.43	4.73	C1

TO-251

**/ Marking Instructions**



BR

70N03

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Note:

BR: Company Code

70N03: Product Type.

: Product BRT, code change with Lot No. c.9850 11.9029 1.9080

