

/ Descriptions

TO-3P N MOS N-Channel MOSFET in a TO-3P Plastic Package.

/ Features

100

10V

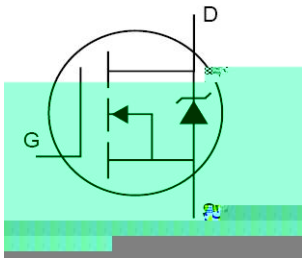
0.24

$R_{DS(ON)}=0.24\Omega$ @ $V_{GS}=10V$, High Switching Speed, 100% Avalanche Tested.

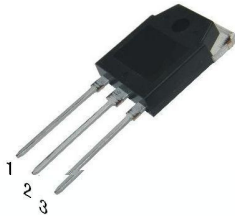
/ Applications

Generally applied in high efficiency switch mode power supplies, active power factor correction and electronic lamp ballasts based on half bridge topology.

/ Equivalent Circuit



/ Pinning



PIN1 Gate PIN 2 Drain PIN 3 Source

/ h_{FE} Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain Source Voltage	V_{DSS}	500	V
Gate-Source Voltage	V_{GSS}	±30	V
Drain Continuous- Current	$I_D(T_c=25)$	26(Note 1)	A
Drain Current Pulsed(Note 2)	I_{DM}	104(Note 1)	A
Avalanche Current(Note 2)	I_{AR}	26	A
Single Pulse Avalanche Energy	E_{AS}	1100	mJ
Repetitive Avalanche Energy	E_{AR}	29	mJ
Peak Diode Recovery dv/dt	dv/dt	15	V/ns
Power Dissipation	$P_D(T_c=25)$ Derate above 25	290	W
		2.33	W/
Junction Temperature	T_J	+150	
Storage Temperature	T_{STG}	-55~+150	°C

1.

2.

Note:

1. Drain current limited by maximum junction temperature.
2. Repetitive Rating: Pulse width limited by maximum junction temperature.

/ Thermal Data

Parameter	Symbol	Rating	Unit
Junction to Ambient	$R_{\theta JA}$	40	°C/W
Junction to Case	$R_{\theta JC}$	0.45	°C/W

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	500			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=500V$ $V_{GS}=0V$			50	μA
Gate- Source Leakage Current Forward	I_{GSSF}	$V_{DS}=0V$ $V_{GS}=+30V$			+100	nA
Gate-Source Leakage Current Reverse	I_{GSSR}	$V_{DS}=0V$ $V_{GS}=-30V$			-100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	3.0		5.0	V
Static Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=13A$		0.15	0.24	Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$, $f=1.0MHz$		3500	4500	pF
Output Capacitance	C_{oss}			520	670	
Reverse Transfer Capacitance	C_{rss}			55	70	
Total Gate Charge	Q_G	$V_{GS}=10V$ $V_{DS}=400V$ $I_D=26A$ (Note 1, 2)		81	120	nC
Gate to Source Charge	Q_{GS}			23		
Gate to Drain Charge	Q_{GD}			35		
Turn-ON Delay Time	$t_{D(on)}$	$V_{DD}=250V$ $I_D=26A$ $R_G=25\Omega$ (Note 1, 2)		80	170	ns
Rise Time	t_R			2500	500	
Turn-OFF Delay Time	$t_{D(off)}$			200	400	
Fall-Time	t_F			155	320	
Maximum Body-Diode Continuous Current	I_S				26	A
Maximum Body-Diode Pulsed Current	I_{SM}				104	A
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=26A$ $V_{GS}=0V$			1.4	V
Body Diode Reverse Recovery Time	T_{rr}	$I_S=26A$ $V_{GS}=0V$ $dI_F/dt=100A/\mu s$ (Note 1)		530		ns
Body Diode Reverse Recovery Charge	Q_{RR}			8.2		μC

1. $\leq 300\mu s$ $\leq 2\%$

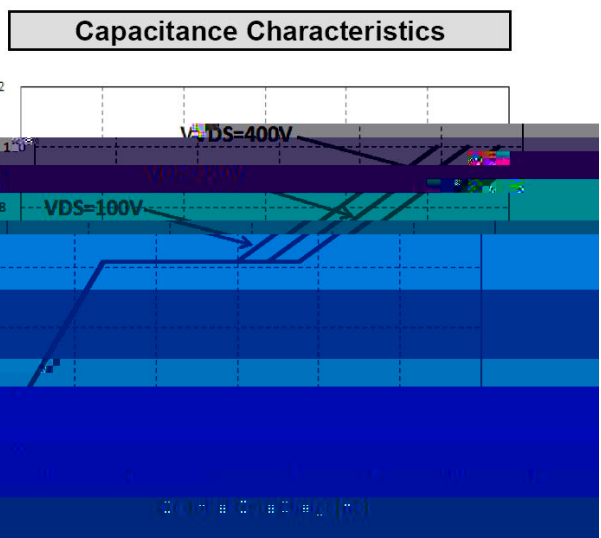
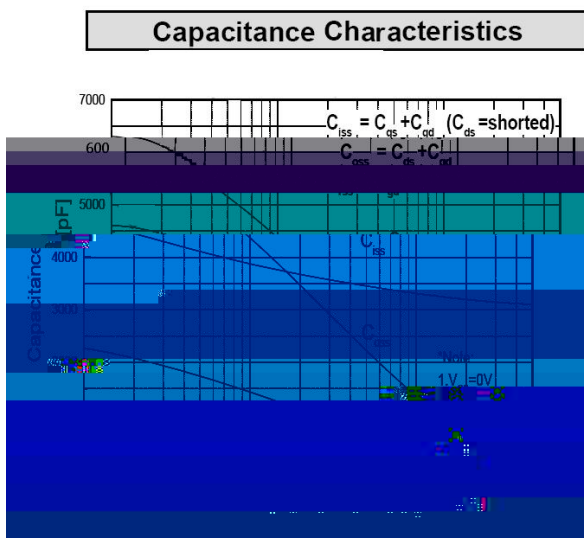
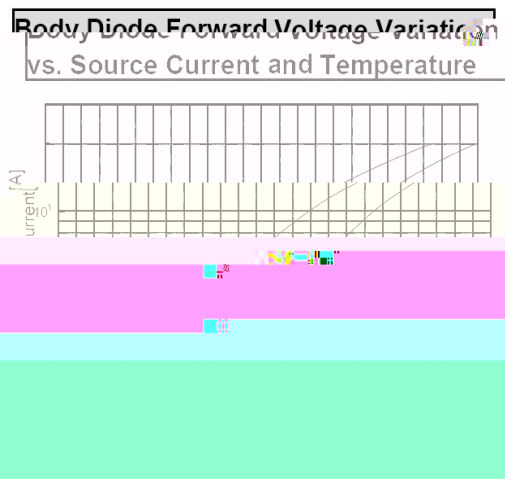
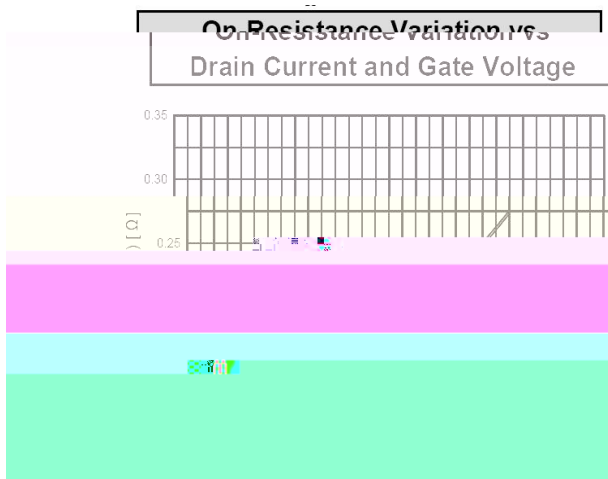
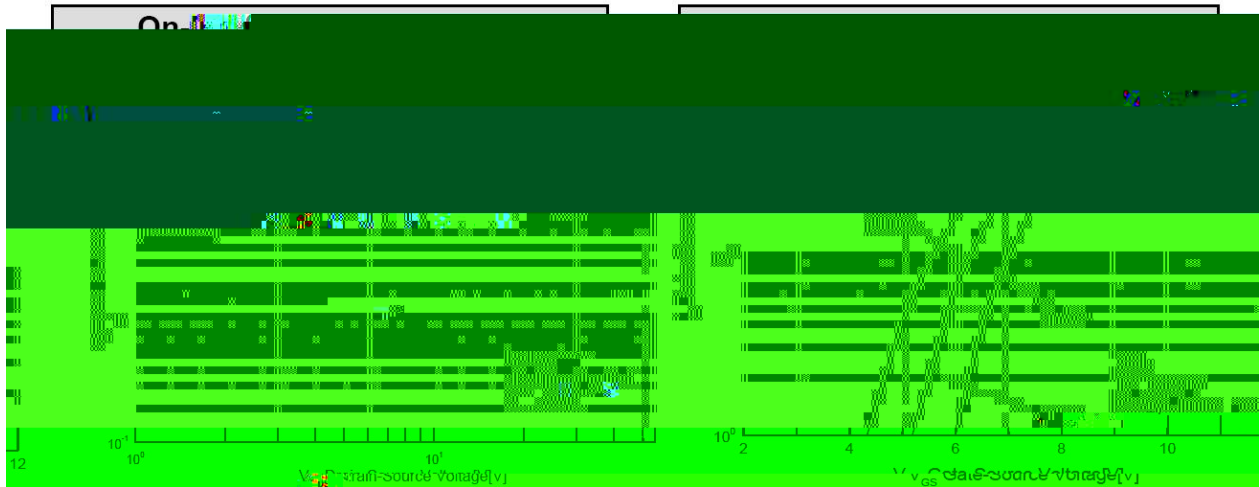
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Note:

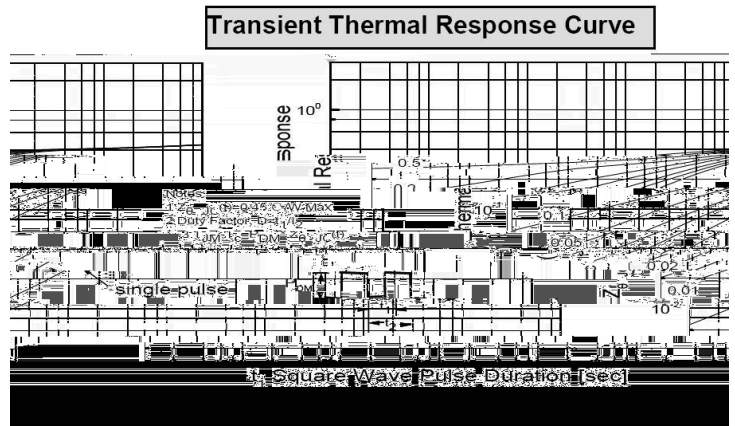
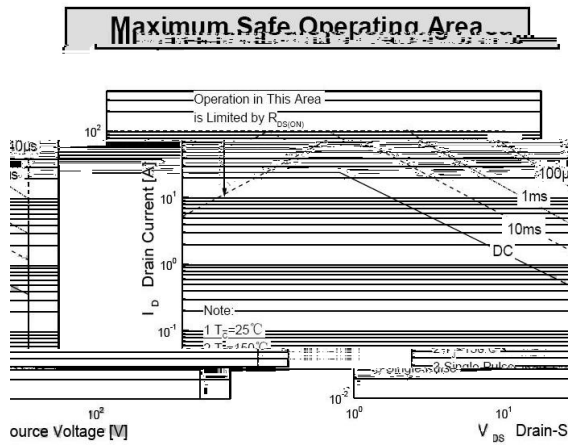
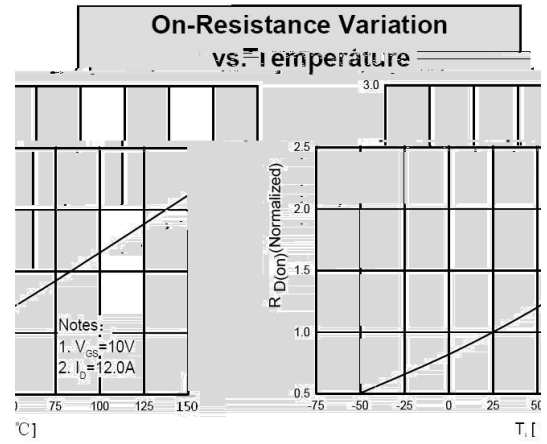
1. Pulse Test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

2. Essentially independent of operating temperature.

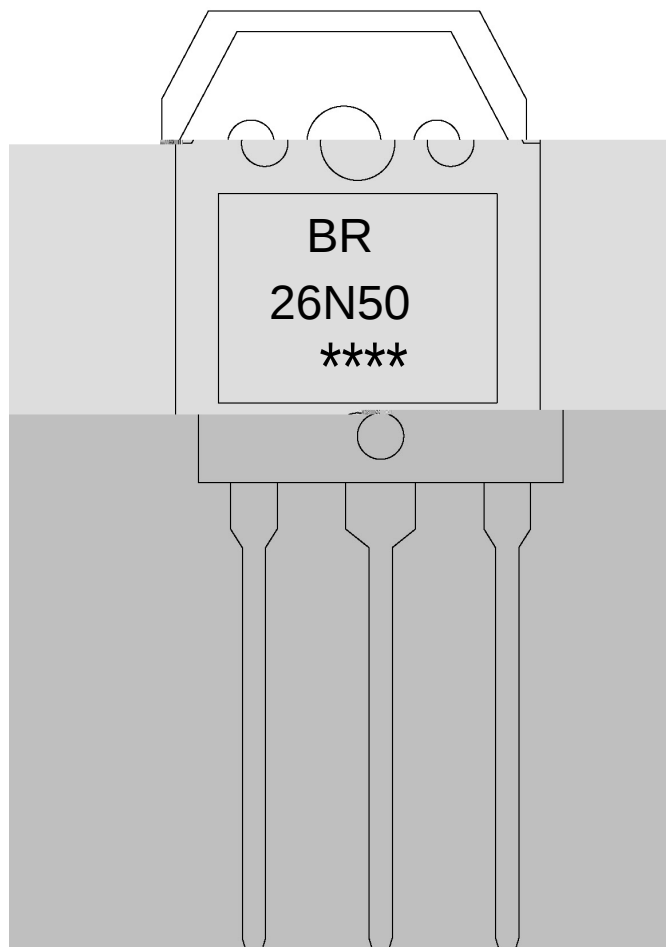
/ Electrical Characteristic Curve



/ Electrical Characteristics(Ta=25)



/ Marking Instructions



BR:

26N50

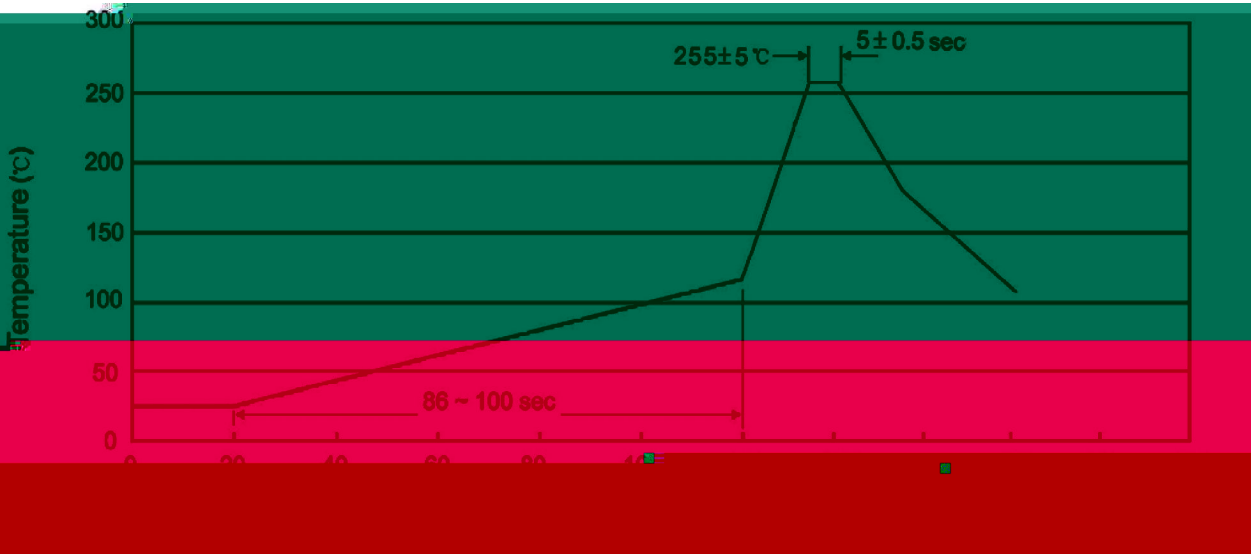
Note:

BR: Company Code.

26N50: Product Type.

****: Lot No. Code, code change with Lot No.

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp:270±5 Time:10±1 sec

/ Packaging SPEC.

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-3P	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

/ Notices