

N-CHANNEL MOSFET in a TO-220 Plastic Package.

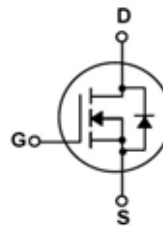
Features

Low gate charge, low crss, fast switching.

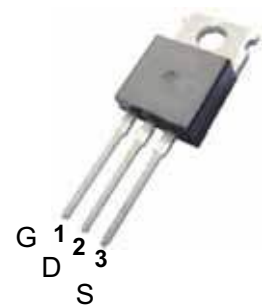
Applications

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

Equivalent Circuit



Pinning



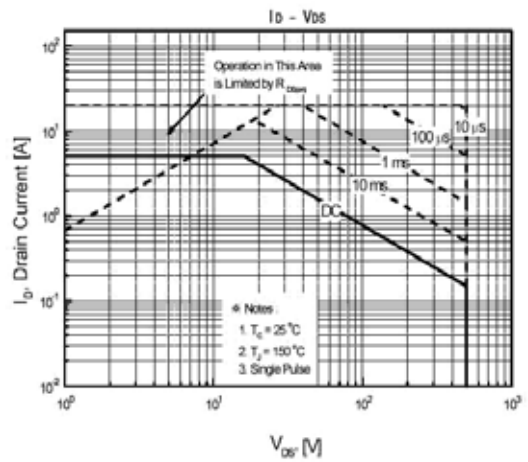
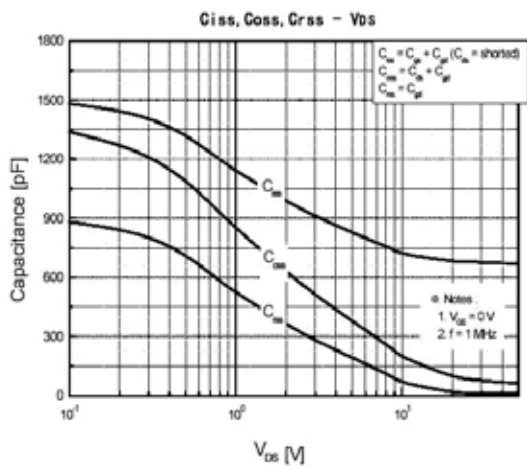
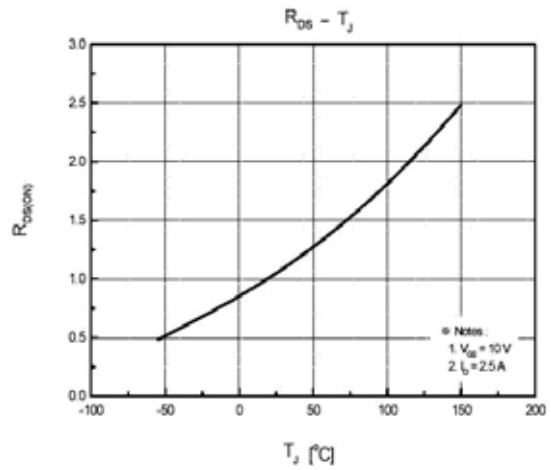
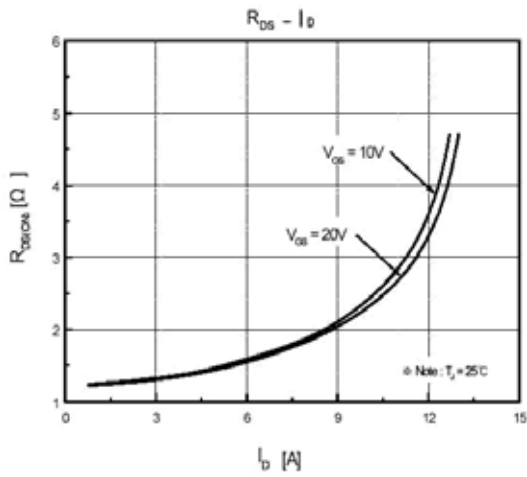
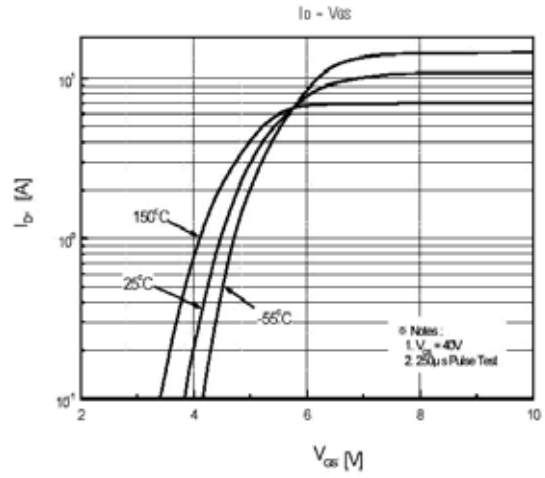
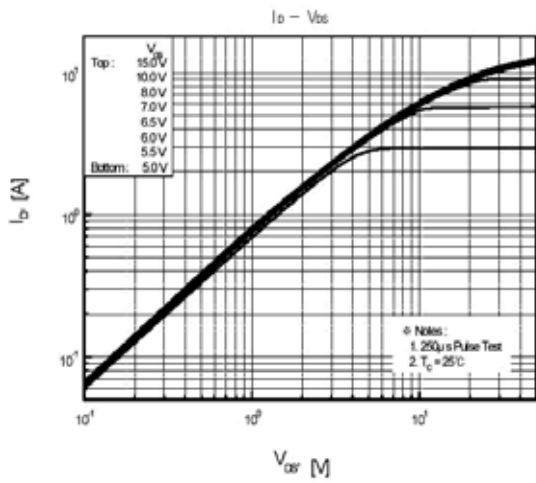
Absolute Maximum Ratings(Ta=25 °C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	500	V
Drain Current	$I_D(T_C=25^{\circ}C)$	5.0	A
	$I_D(T_C=100^{\circ}C)$	3.0	A
Pulsed Drain Current	I_{DM}	20	A
Gate-Source Voltage	V_{GSS}	± 30	V
Avalanche Current	I_{AR}	5	A
Single Pulsed Avalanche Energy	E_{AS}	292	mJ
Repetitive Avalanche Energy	E_{AR}	8.75	mJ
Total Power Dissipation	$P_D(T_C=25^{\circ}C)$	87.5	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

Electrical Characteristics(Ta=25 °C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	500			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=500V$ $V_{GS}=0V$			10	μA
		$V_{DS}=400V$ $T_C=125^\circ C$			100	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=2.5A$		1.15	1.4	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=2.5A$		4.2		S
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=5.0A$			1.5	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		680	900	pF
Output Capacitance	C_{oss}			85	110	
Reverse Transfer Capacitance	C_{rss}			15	20	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=5.0A$ $R_G=25\Omega$		20	50	ns
Turn-On Rise Time	t_r			40	90	
Turn-Off Delay Time	$t_{d(off)}$			90	190	
Turn-Off Fall Time	t_f			45	100	

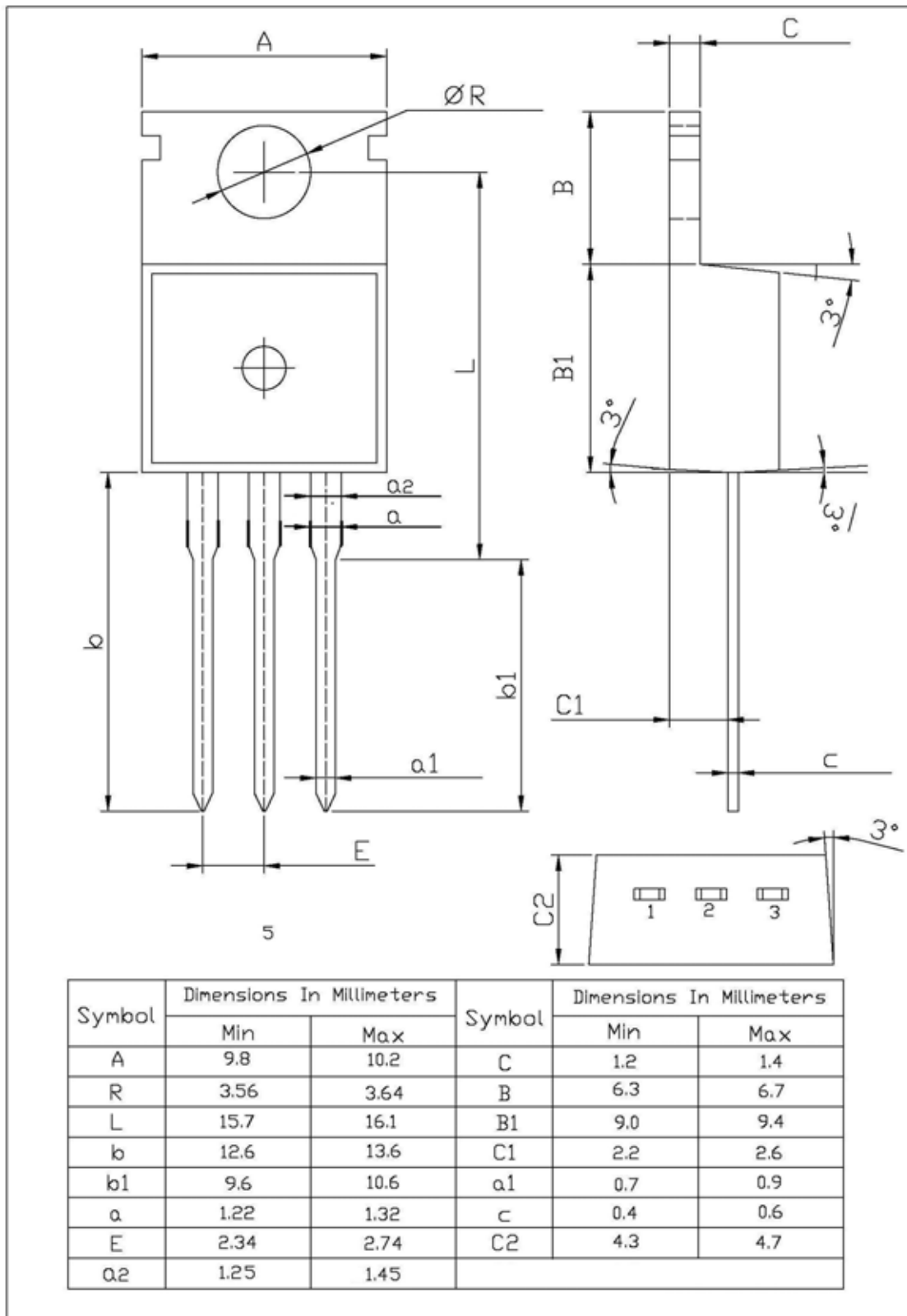
RATING AND CHARACTERISTICS CURVES (RM830)



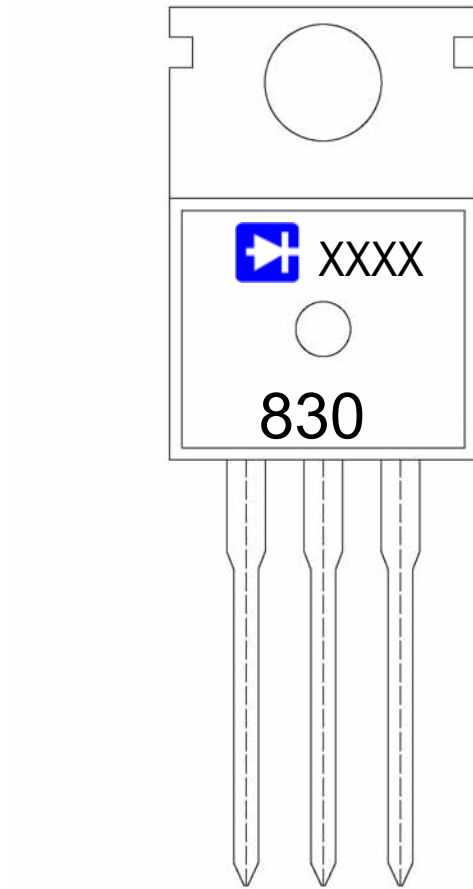
Package Dimensions

TQ-220

单位: mm



Marking Instructions



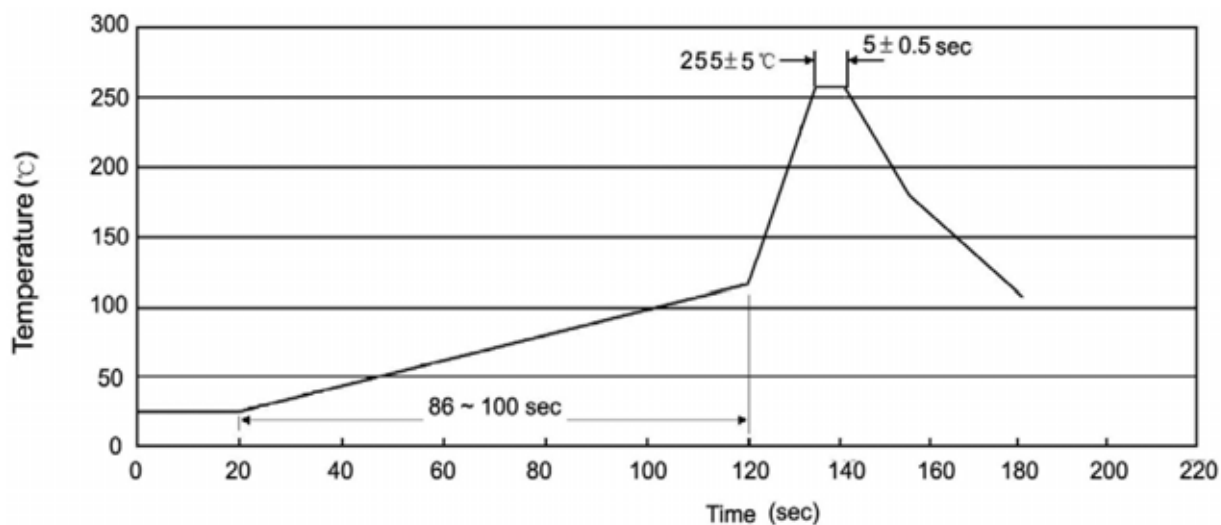
Note:

 : RECTRON Logo

830: Product Type.

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

Temperature Profile for Dip Soldering(Pb-Free)



- 1.Preheating:25~150 °C, Time:60~90sec.
- 2.Peak Temp.:255 ±5°C, Duration:5±0.5sec.
- 3.Cooling Speed: 2~10°C/sec.

Resistance to Soldering Heat Test Conditions

Temp.:270±5 °C Time:10±1 sec

Packaging SPEC.

BULK

Package Type	Units					Dimension (unit: mm ³)		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

TUBE

Package Type	Units 包装数量					Dimension (unit: mm ³)		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.