

/ Descriptions

TO-252 P MOS

P-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

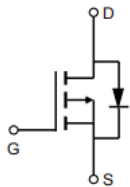
 $R_{DS(on)}$ C_{rss} Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.

/ Applications

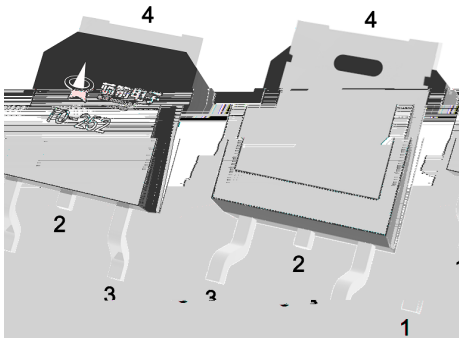
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-60	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	-50	A
Drain Current - Pulsed		I_{DM}	-200	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_C=25^\circ\text{C})$	85	W
Single Pulsed Avalanche Energy		E_{AS}	250	mJ
Avalanche Current($L=0.5\text{mH}$)		I_{AS}	25	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	25	/ W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	1.5	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=-250\mu\text{A}$	-60	-68		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60\text{V}$ $V_{GS}=0\text{V}$			-1.0	μA
		$V_{DS}=-48\text{V}$ $T_C=150$			-10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu\text{A}$	-1	-1.6	-3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10\text{V}$ $I_D=-20\text{A}$		30	35	$\text{m}\Omega$
	$R_{DS(on)}$	$V_{GS}=-4.5\text{V}$ $I_D=-10\text{A}$		40	45	$\text{m}\Omega$
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=-1\text{A}$			-1.2	V
Gate resistance	R_g			10		Ω
Input Capacitance	C_{iss}			3200		pF
Output Capacitance	C_{oss}	$V_{DS}=-25\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		800		pF

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t					

/ Electrical Characteristic Curve

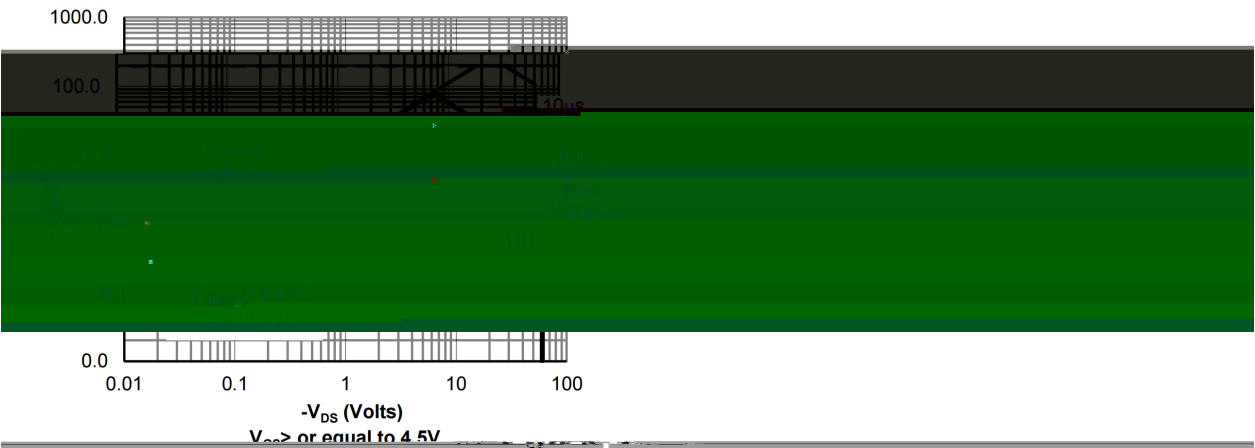
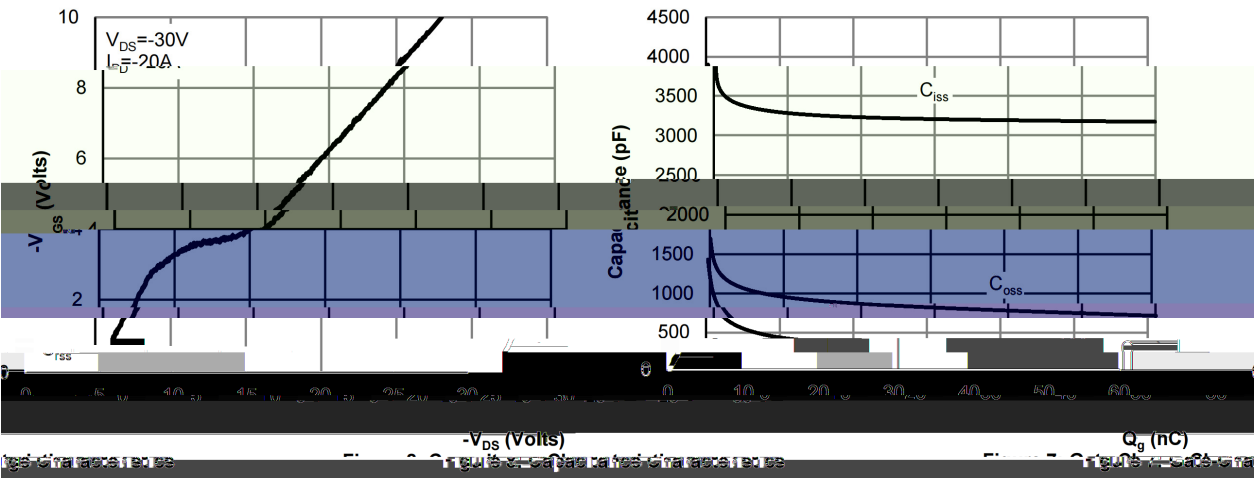


Figure 9: Maximum Forward Biased Safe Operating Area

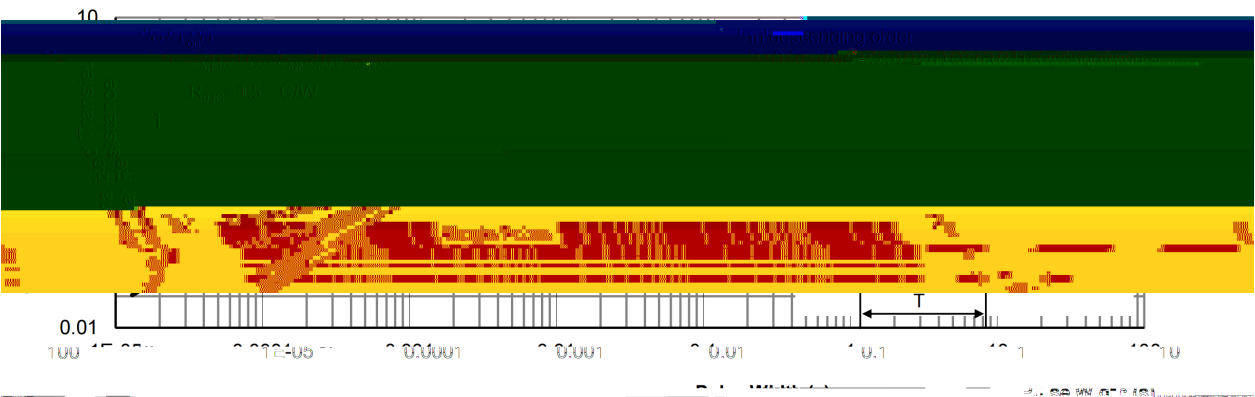
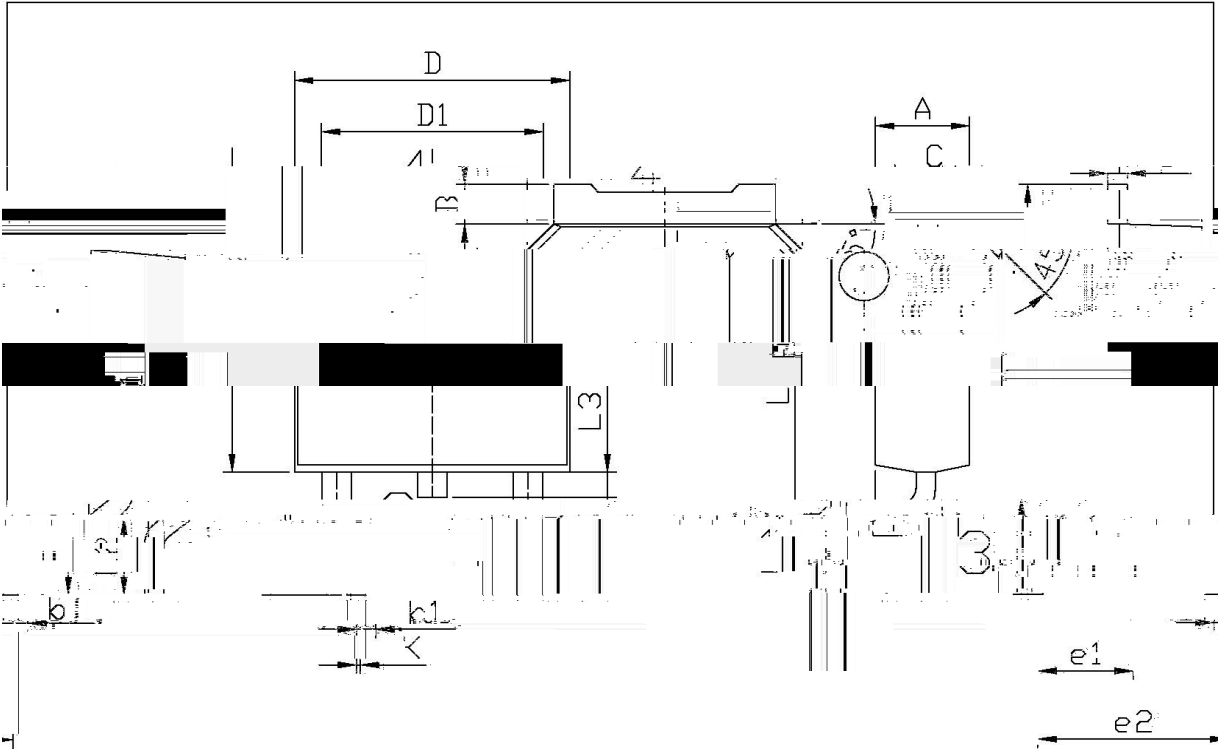


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

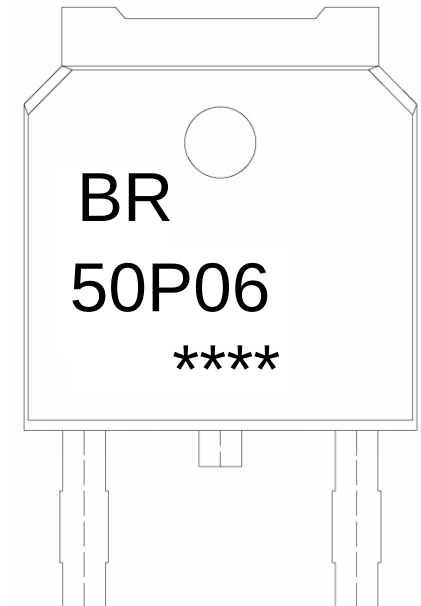


单位: mm

Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
F	5.95	6.25	25	2.20	2.40
e1	2.24	2.34	B	0.95	1.05
e2	4.43	4.73	b	0.70	0.90
L1	9.85	10.35	51	0.45	0.55
c	0.15	0.55	L2	1.70	2.00
3	0.60	0.90	D	6.45	6.75
5	0.50	0.60	51	0.1	0.10

T0-252

/ Marking Instructions



BR

50P06

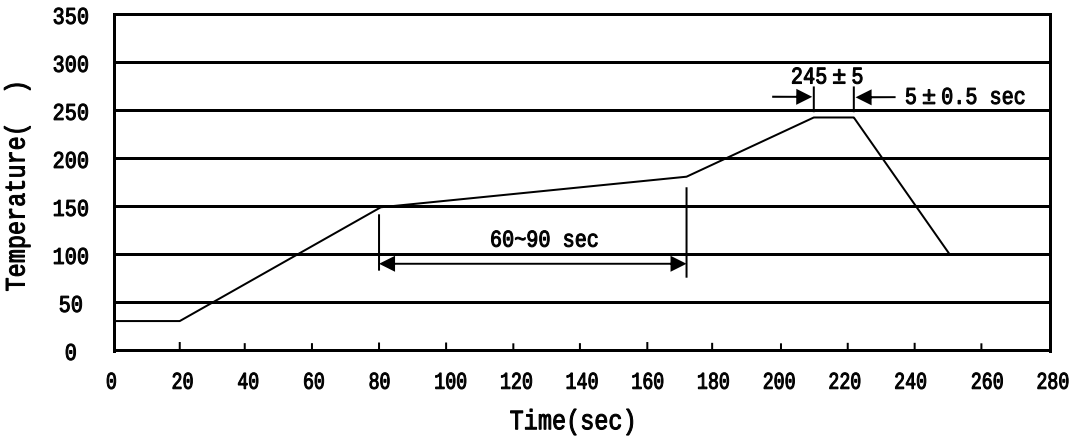
Note:

BR: Company Code

50P06: Product Type Code

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|----|------------|--|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 °C , Time:60~90sec. |
| 2 | 245±5 | | | 5±0.5sec; | 2.Peak Temp.:245±5 °C , Duration:5±0.5sec. |
| 3 | | | 2 | 10 °C/sec. | 3. Cooling Speed: 2~10 °C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

REEL									
Package Type	Units			Dimension					
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box	
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366	

TUBE									
Package Type	Units			Dimension					
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box	
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180	

/ Notices