/ Descriptions

P-Channel Enhancement Mode Field Effect Transistor in a SOP-8 Plastic Package.

/ Features

V_{DS} (V) = -30V I_D = -16A (V_{GS} = ± 20V)

$R_{DS(ON)}$@-10V≤8.0mΩ(Typ.7.0mΩ)

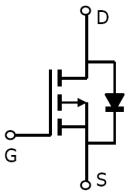
$R_{DS(ON)}$@-4.5V≤15mΩ(Typ.10.3mΩ)

HF Product.

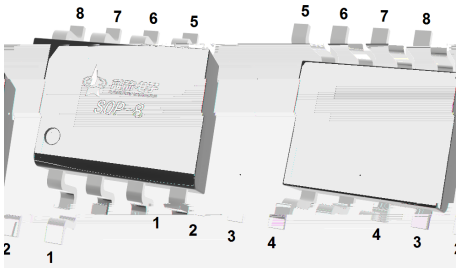
/ Applications

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

/ Equivalent Circuit



/ Pinning



PIN1	S	PIN 2	S	PIN 3	S	PIN 4	G
PIN 5	D	PIN 6	D	PIN 7	D	PIN 8	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Drain Current - Continuous		I_D	-16	A
Drain Current – Pulsed		I_{DM}	-65	A
Gate-Source Voltage		V_{GS}	±20	V
Power Dissipation		P_D	3	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	360	mJ
Avalanche Current(L=0.5mH)		I_{AS}	-30	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	$R_{\theta JA}$	41.7	/ W
	Steady-State		75	

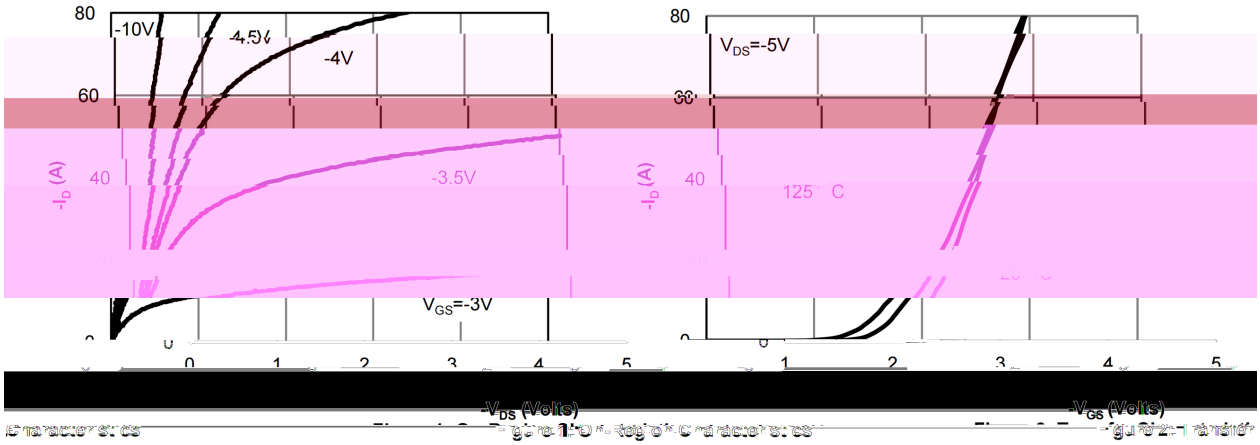
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-250μA V_{GS}=0V	-30	-35		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V V_{GS}=0V			-1	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS I_D=-250μA	-1	-1.5	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-10A		7.0	8	m
		V_{GS}=-4.5V, I_D=-8A		10.3	15	
Diode Forward Voltage	V_{SD}	I_S=-1A, V_{GS}=0V			-1.2	V
Input Capacitance	C_{iss}	V_{DS}=-25V V_{GS}=0V f=1.0MHz		3260		pF
Output Capacitance	C_{oss}			335		
Reverse Transfer Capacitance	C_{rss}			330		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		5.6		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=-10V, V_{DS}=-15V, I_D=-20A		51		nC
Total Gate Charge	$Q_{g(4.5V)}$			32		
Gate Source Charge	Q_{gs}			11		
Gate Drain Charge	Q_{gd}			13		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-10V V_{DS}=-15V R_L=0.75Ω R_{GEN}=3Ω		12.5		ns
Turn-On Rise Time	t_r			19		
Turn-Off Delay Time	$t_{d(off)}$			125		
Turn-Off Fall Time	t_f			67		

/ Electrical Characteristic Curve



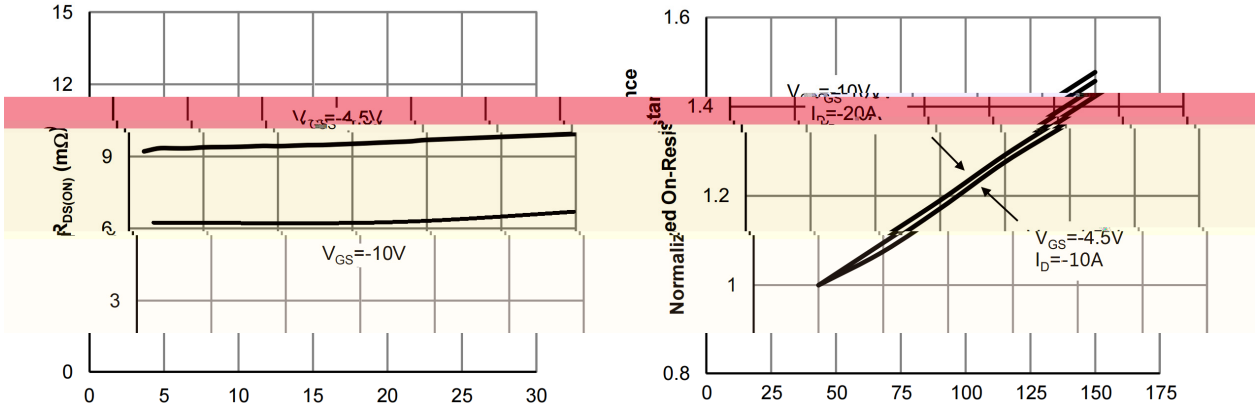


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

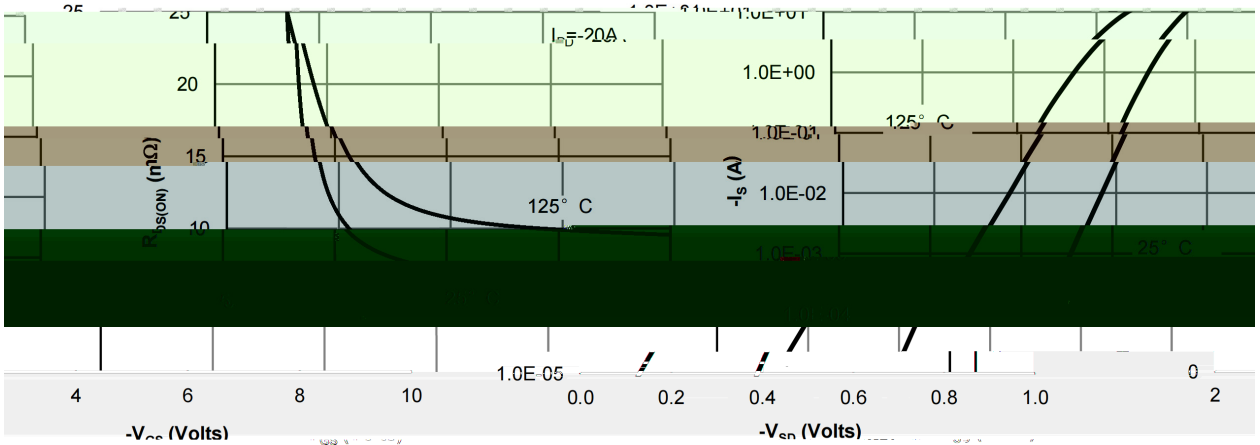
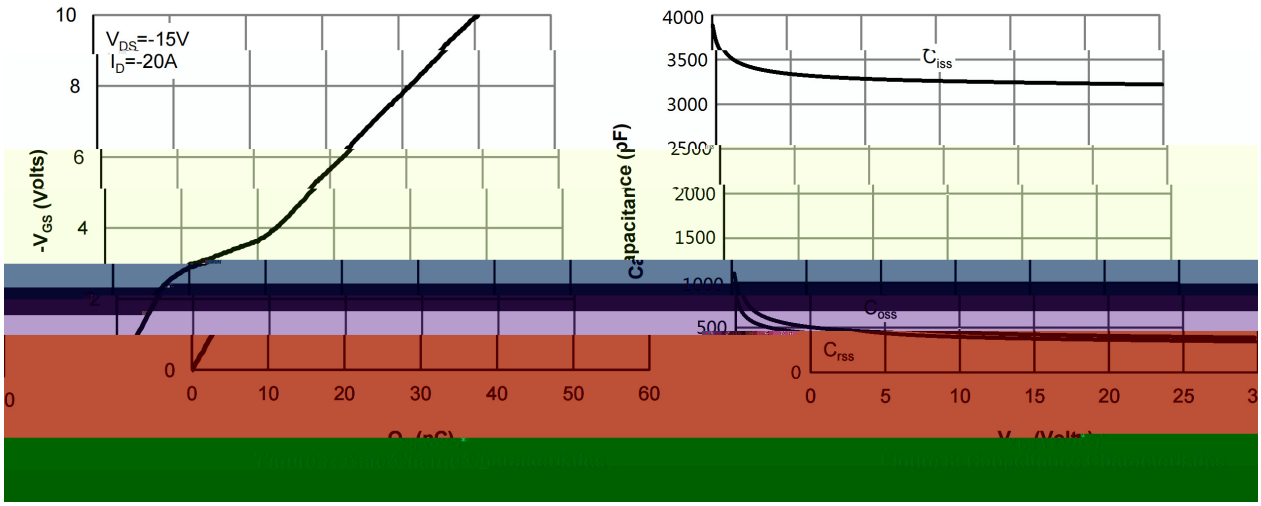


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve



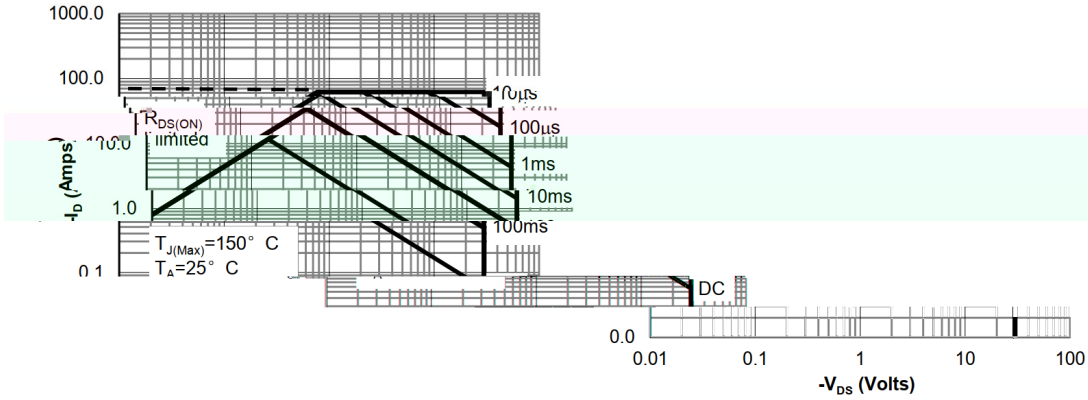


Figure 9: Maximum Forward Biased Safe Operating Area

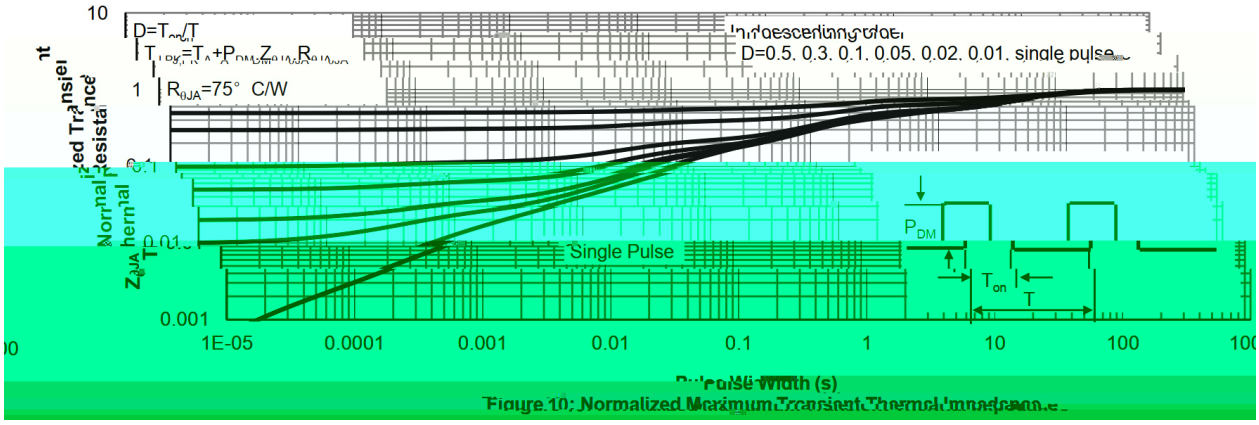
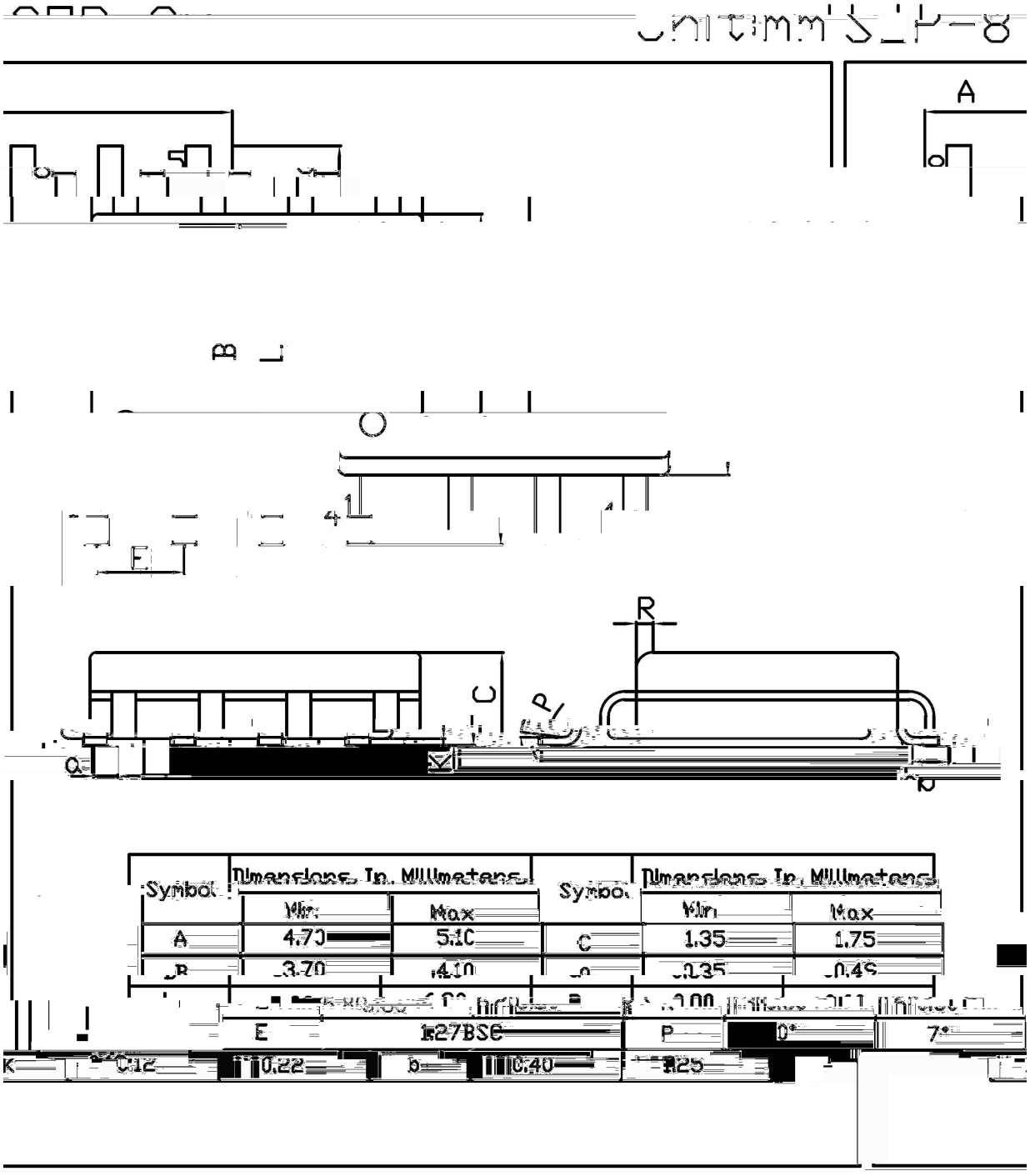
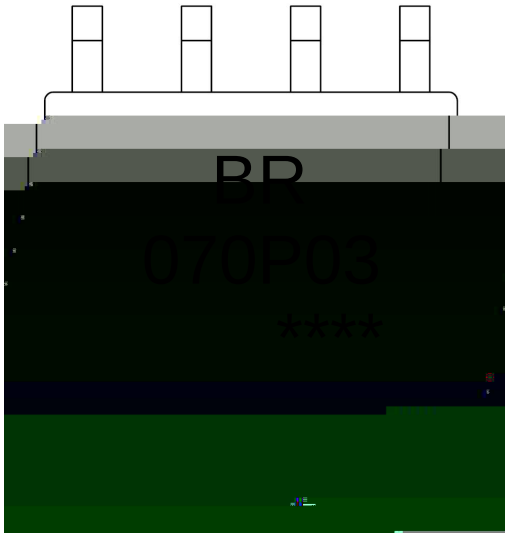


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions



/ Marking Instructions



BR

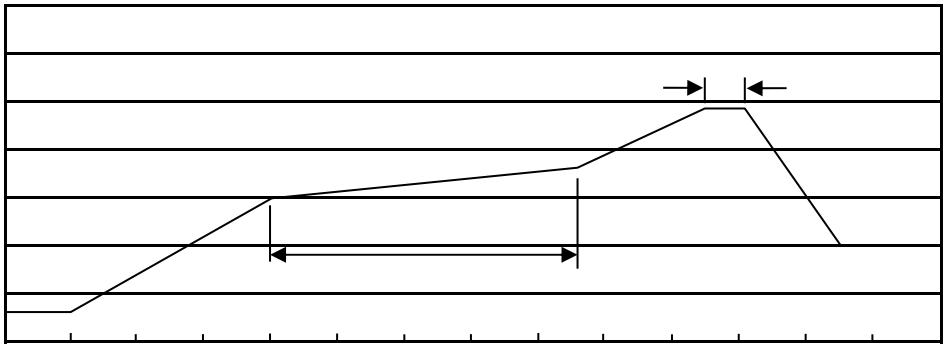
070P03

****

Note:

BR:	Company Code
070P03:	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 , Time:60~90sec.
2	245 5 5 0.5sec;	2.Peak Temp.:245 5 , Duration:5 0.5sec.
3	2 10 /sec.	3. Cooling Speed: 2~10 /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		(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices