



# silicon power transistors

## NPN TO-61 (isolated collector) (cont'd)

$I_{C(MAX)} = 5 \text{ to } 20\text{A}$   $V_{CE(SUS)} = 60 \text{ to } 350\text{V}$   $f_r = 20 \text{ to } 40 \text{ MHz}$

Type #	$V_{CE(SUS)}$ (Volts)	$h_{FE}$ @ $I_C/V_{CE}$ (Min-Max @ A/V)	$V_{CE(SAT)}$ @ $I_C/I_B$ (V @ A/A)	$V_{BE}$ @ $I_C/V_{CE}$ (V @ A/V)	$I_{CEV}$ @ $V_{CE}$ (mA @ V)	$P_D$ @ $T_c = 100^\circ\text{C}$ (Watts)	$\theta_{JC}$ ( $^\circ\text{C/W}$ )	$I_{S/B}$ @ $V_{CE}$ $t = 1\text{sec}$ (A @ V)	$f_r$ (MHz)	$t_{ON}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	$t_{OFF}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	Generic Product	General Information
STA9760	225	10-200@10/4	2@10/1	2.5 <sup>3</sup> @10/1	.5@225	57	1.75	2.85@20	20	.6@10/1	3@10/1	STA9760 Family.	High Voltage, High Current, High Speed Power Switch and Amplifier. Military Usage.
STA9761	300	10-200@8/4	2@8/.8	2.5 <sup>3</sup> @8/.8	1.0@300	57	1.75	2.85@20	20	.5@8/.8	3@8/.8	200 x 200 Mil Chip.	Double Epitaxial Process. Ultrasonically Bonded Leads. Case 352
STA 9762	350	10-200@5/4	2@5/.5	2.5 <sup>3</sup> @5/.5	1.0@350	57	1.75	2.85@20	20	.5@5/.5	3@5/.5		
Typical Values	275	10-200@5/4	1@5/.5	1.8 <sup>3</sup> @5/.5	1@275	57	1.75	2.85@20	20	.5@5/.5	2.5@5/.5		

NOTE: This product is developmental.

NOTES:  
<sup>3</sup>  $V_{BE(SAT)}$  @  $I_C/I_B$  (V @ A/A)



## NPN TO-82

$I_{C(MAX)} = 7.5 \text{ to } 10\text{A}$   $V_{CE(SUS)} = 30 \text{ to } 250\text{V}$   $f_r = 0.5 \text{ MHz}$

Type #	$V_{CE(SUS)}$ (Volts)	$h_{FE}$ @ $I_C/V_{CE}$ (Min-Max @ A/V)	$V_{CE(SAT)}$ @ $I_C/I_B$ (V @ A/A)	$V_{BE}$ @ $I_C/V_{CE}$ (V @ A/V)	$I_{CEV}$ @ $V_{CE}$ (mA @ V)	$P_D$ @ $T_c = 100^\circ\text{C}$ (Watts)	$\theta_{JC}$ ( $^\circ\text{C/W}$ )	$I_{S/B}$ @ $V_{CE}$ $t = 1\text{sec}$ (A @ V)	$f_r$ (MHz)	$t_{ON}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	$t_{OFF}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	Generic Product	General Information
2N1015	30	>10@2/4	1.5@2/.3	2@2/4	20@30	71.5	0.7					2N1016 Family.	High Power Switch and Amplifier. Military Usage.
2N1015A	60	>10@2/4	1.5@2/.3	2@2/4	20@60	71.5	0.7					200 x 200 Mil Chip.	Single Diffused Process. Clip Leads. Case 540
2N1015B	100	>10@2/4	1.5@2/.3	2@2/4	20@100	71.5	0.7						
2N1015C	150	>10@2/4	1.5@2/.3	2@2/4	20@150	71.5	0.7						
2N1015D	200	>10@2/4	1.5@2/.3	2@2/4	20@200	71.5	0.7						
2N1015E	250	>10@2/4	1.5@2/.3	2@2/4	20@250	71.5	0.7						
2N1016	30	>10@5/4	2.5@5/.75	2@5/4	20@30	71.5	0.7						
2N1016A	60	>10@5/4	2.5@5/.75	2@5/4	20@60	71.5	0.7						
2N1016B	100	>10@5/4	2.5@5/.75	2@5/4	20@100	71.5	0.7						
2N1016C	150	>10@5/4	2.5@5/.75	2@5/4	20@150	71.5	0.7						
2N1016D	200	>10@5/4	2.5@5/.75	2@5/4	20@200	71.5	0.7						
2N1016E	250	>10@5/4	2.5@5/.75	2@5/4	20@250	71.5	0.7						
Typical Values	175	10-100@5/4	1.5@5/.75	1.8@5/4	5@175	71.5	0.7	3@50	0.8	6@5/1	13@5/1		
2N2226	50	100-500@9/6	3.5@9/.15	4@9/6	20@50	100	0.5					2N2226 Family.	High Gain, High Power Amplifier and Switch. Military Usage.
2N2227	100	100-500@9/6	3.5@9/.15	4@9/6	20@100	100	0.5					2 - 170 x 170 Mil Chips in Darlington Configuration.	Single Diffused Process. Clip Leads. Case 540
2N2228	150	100-500@9/6	3.5@9/.15	4@9/6	20@150	100	0.5						
2N2229	200	100-500@9/6	3.5@9/.15	4@9/6	20@200	100	0.5						
2N2230	50	>350@8/6	3.5@9/.15	4@9/6	20@50	100	0.5						
2N2231	100	>350@8/6	3.5@9/.15	4@9/6	20@100	100	0.5						
2N2232	150	>350@8/6	3.5@9/.15	4@9/6	20@150	100	0.5						
2N2233	200	>350@8/6	3.5@9/.15	4@9/6	20@200	100	0.5						
Typical Values	100	100-2000@9/6	3@9/.15	3.5@9/6	5@100	100	0.5	3@40	0.8				

## NPN TO-63

$I_{C(MAX)} = 10 \text{ to } 30\text{A}$   $V_{CE(SUS)} = 60 \text{ to } 350\text{V}$   $f_r = 0.6 \text{ to } 30 \text{ MHz}$

Type #	$V_{CE(SUS)}$ (Volts)	$h_{FE}$ @ $I_C/V_{CE}$ (Min-Max @ A/V)	$V_{CE(SAT)}$ @ $I_C/I_B$ (V @ A/A)	$V_{BE}$ @ $I_C/V_{CE}$ (V @ A/V)	$I_{CEV}$ @ $V_{CE}$ (mA @ V)	$P_D$ @ $T_c = 100^\circ\text{C}$ (Watts)	$\theta_{JC}$ ( $^\circ\text{C/W}$ )	$I_{S/B}$ @ $V_{CE}$ $t = 1\text{sec}$ (A @ V)	$f_r$ (MHz)	$t_{ON}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	$t_{OFF}$ @ $I_C/I_B$ ( $\mu\text{s}$ @ A/A)	Generic Product	General Information
2N2815	80	10-50@10/3	1.5@10/1.5	2.5 <sup>3</sup> @10/1.5	2@80	100	1.0		0.6	3.5@10/1.5	12@10/1.5	2N2815 Family.	High Current, High Power Switch and Amplifier. Military Usage.
2N2816	100	10-50@10/3	1.5@10/1.5	2.5 <sup>3</sup> @10/1.5	2@100	100	1.0		0.6	3.5@10/1.5	12@10/1.5	325 x 325 Mil Chip.	Single Diffused Process. Clip Leads. Case 530
2N2817	150	10-50@10/3	1.5@10/1.5	2.5 <sup>3</sup> @10/1.5	2@150	100	1.0		0.6	3.5@10/1.5	12@10/1.5		
2N2818	200	10-50@10/3	1.5@10/1.5	2.5 <sup>3</sup> @10/1.5	2@200	100	1.0		0.6	3.5@10/1.5	12@10/1.5		
2N2819	80	10-50@15/3	1.5@15/2.2	2.5 <sup>3</sup> @15/2.2	2@80	100	1.0		0.6	3.5@15/2.2	12@15/2.2		
2N2820	100	10-50@15/3	1.5@15/2.2	2.5 <sup>3</sup> @15/2.2	2@100	100	1.0		0.6	3.5@15/2.2	12@15/2.2		
2N2821	150	10-50@15/3	1.5@15/2.2	2.5 <sup>3</sup> @15/2.2	2@150	100	1.0		0.6	3.5@15/2.2	12@15/2.2		
2N2822	200	10-50@15/3	1.5@15/2.2	2.5 <sup>3</sup> @15/2.2	2@200	100	1.0		0.6	3.5@15/2.2	12@15/2.2		
2N2823	80	10-40@20/2	1.1@20/3	2.1 <sup>3</sup> @20/3	2@80	100	1.0		0.6	3.5@20/3	12@20/3		
2N2824	100	10-40@20/2	1.1@20/3	2.1 <sup>3</sup> @20/3	2@100	100	1.0		0.6	3.5@20/3	12@20/3		
2N2825	150	10-40@20/2	1.1@20/3	2.1 <sup>3</sup> @20/3	2@150	100	1.0		0.6	3.5@20/3	12@20/3		
Typical Values	125	10-100@15/3	1.2@15/2.2	1.9 <sup>3</sup> @15/2.2	1@125	100	1.0	3@50	0.6	3@15/2.2	10@15/2.2		
STA3265	90	25-55@15/2	1@20/2	1.8 <sup>3</sup> @20/2	20@150	100	1.0	.35@75	20	.5@15/1.2	2@15/1.2	STA3265 Family.	High Current, High Speed Power Switch and Amplifier. Military Usage.
STA3266	60	20-80@15/3	1.6@20/2	2.2 <sup>3</sup> @20/2	20@120	100	1.0	.70@50	20	.5@15/1.2	2@15/1.2	200 x 200 Mil Chip.	Double Epitaxial Process. Ultrasonically Bonded Leads. Case 531
STA8860	140	20-200@12/3	1.5@12/1.2	1.8 <sup>3</sup> @12/1.2	5@140	100	1.0		30	.5@12/1.2	1@12/1.2		
Typical Values	120	20-200@12/3	1@12/1.2	1.5 <sup>3</sup> @12/1.2	1@120	100	1.0	.7@50	30	.4@12/1.2	1@12/1.2		

NOTE: This product is developmental.

<sup>3</sup>  $V_{BE(SAT)}$  @  $I_C/I_B$  (V @ A/A)