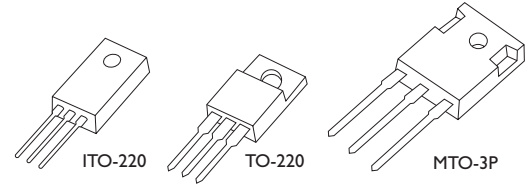


HIGH VOLTAGE • HIGH SPEED SWITCHING TRANSISTORS

HDT series

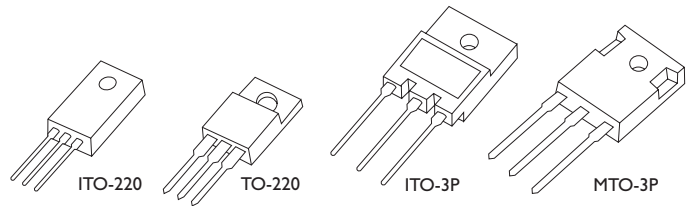
Bipolar transistors (NPN)



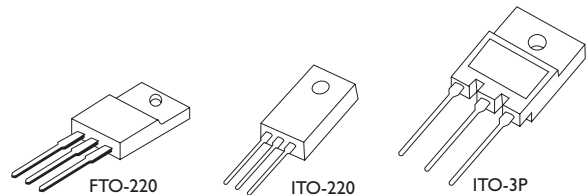
Type No.	Absolute Maximum Ratings								Electrical Characteristics									Outline	
	V _{RM}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CEO} (sus) (min)	h _{FE} (min)	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{JC} (max)	f _T (typ)	t _{on} (max)	t _s (max)	t _f (max)		
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]		[V]	[V]	[°C/W]	[MHz]	[μs]	[μs]	[μs]	Package	Figure
2SC4310	900	800	7	6	3	50	-55	150	800	7	1.5	2.5	2.5	7	0.5	3	0.5	TO-220	80-3
4311						40							3.1					ITO-220	82-4
4312						80							1.56					MTO-3P	86-2
4313				10	4	100							1.25						
4314				15	6	130							0.96						

HFX series

Bipolar transistors (NPN)



Type No.	Absolute Maximum Ratings								Electrical Characteristics										Outline	
	V _{RM}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CEO} (sus) (min)	h _{FE}	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{JC}	f _T	t _{on}	t _s	t _f			
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]	(min)	[V]	[V]	[°C/W]	(typ)	(max)	(max)	(max)	Package	Figure	
2SC4230	1200	800	7	2	1	50	-55	150	800	8	1	1.5	2.5	8	0.5	3.5	0.3	TO-220	80-3	
4231						30							4.16					ITO-220	82-4	
4232						70							1.7					MTO-3P	86-2	
4233				3	1	60							2.08					TO-220	80-3	
4234						45							2.77					ITO-220	82-4	
4235						80							1.56					MTO-3P	86-2	
4236				6	3	100							1.25							
4237				10	4	150							0.83							
4583				3	1	50							2.5					ITO-3P	88-3	
4584				6	3	65							1.92							
4585				10	4	85							1.47							



Switching Transistors for Lighting Equipment

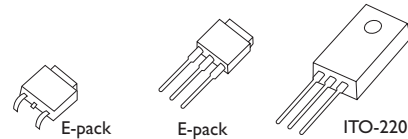
Bipolar transistors (NPN)

Type No.	Absolute Maximum Ratings								Electrical Characteristics									Outline	
	V _{RM}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CEO} (sus) (min)	h _{FE} (min)	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{JC} (max)	f _T (typ)	t _{on} (max)	t _s (max)	t _f (max)		
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]	(min)	[V]	[V]	[°C/W]	[MHz]	[μs]	[μs]	[μs]	Package	Figure
2SC4940	1200	550	7	4	2	30	−55	150	550	10	1	1.5	4.16	10	0.8	3.0	0.3	ITO-220	82-4
4941	1500	800		6	3	65	1		800	15	0.5		1.92	8	0.5	3.5		ITO-3P	88-3
5382	1200	550	9			40	150		550	10	1		3.13	—	1.3	4.0		FTO-220	84-3

LOW SATURATION VOLTAGE SWITCHING TRANSISTORS

LSV series

Bipolar transistors

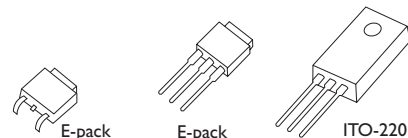


Type No.	Absolute Maximum Ratings								Electrical Characteristics										Outline	
	V _{CEO}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CEO} (sus) (min)	h _{FE} (min)	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{Jc} (max)	f _T (typ)	t _{on} (max)	t _s (max)	t _f (max)			
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]		[V]	[V]	[°C/W]	[MHz]	[μs]	[μs]	[μs]	Package	Figure	
2SA1795	-60	-40	-7	-5	-1.5	10	-55 150	150	-40	70	-0.3	-1.2	12.5	50	0.3	1.5	0.5	E-pack	*I	
1796				-7		25							12.5							
1679				-5									5							
1598				-7									5							
1599				-10	-2	30 45							5					ITO-220	82-4	
1600				-12									4.16							
1601				-15									2.77							
2SC4668	60	40	7	7	1.5	10	-55 150	150	40	70	0.3	1.2	12.5	50	0.3	1.5	0.5			E-pack
4669				10		25							12.5							
4148				7									5							
4149				10									5							
4150				12	2	30							5					ITO-220	82-4	
4151				15									4.16							
4876				30	4	45				100			2.78							

*I: Leaded package - Fig. 78-3; SMD package - Fig. 77-3

HSV series

Bipolar transistors



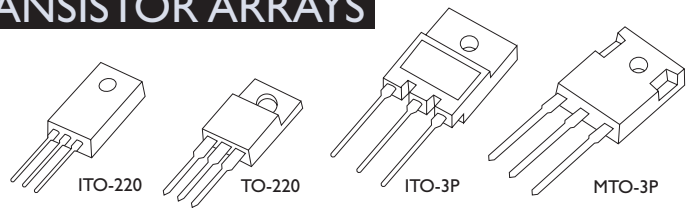
Type No.	Absolute Maximum Ratings								Electrical Characteristics									Outline	
	V _{CEO}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CEO} (sus) (min)	h _{FE} (min)	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{Jc} (max)	f _T (typ)	t _{on} (max)	t _s (max)	t _f (max)		
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]		[V]	[V]	[°C/W]	[MHz]	[μs]	[μs]	[μs]	Package	Figure
2SA1876	-80	-80	-7	-3	-1	10	-55	150	-80	70	-0.3	-1.2	12.5	50	0.3	1.5	0.2	E-pack	*I
1877				-5	-1.5	25	150	5					ITO-220					82-4	
1878				-7															
1879				-10															
1880																			
2SC4978	100	80	7	3	1	10	-55	150	80	70	0.3	1.2	12.5	50	0.3	1.5	0.2	E-pack	*I
4979				5	1.5	25	150	5					ITO-220					82-4	
4980				7															
4981				10															
4982																			

*I: Leaded package - Fig. 78-3; SMD package - Fig. 77-3

DARLINGTON TRANSISTORS & TRANSISTOR ARRAYS

Darlington Power Transistors

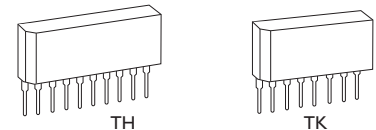
Bipolar transistors



Type No.	Absolute Maximum Ratings								Electrical Characteristics										Outline		
	V _{CB0}	V _{CE0}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	V _{CE0} (sus) (min)	h _{FE} (min)	V _{CE} (sat) (max)	V _{BE} (sat) (max)	θ _{JC} (max)	f _r (typ)	t _{on} (max)	t _s (max)	t _f (max)				
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	[V]	(min)	[V]	[V]	[°C/W]	[MHz]	[μs]	[μs]	[μs]	Package	Figure		
2SD1022	100	100	7	5	0.5	30	-55 ~ 150	150	—	1500	1.5	2	4.17	20	2	5	3	TO-220	80-3		
1023	200	200														8	5				
1024	100	100	7	8	0.5	50		150	—	1500	1.5	2	2.5	20	2	5	3				
1025	200	200														8	5				
1026	100	100	7	15	1	100		150	—	1500	1.5	2	1.25	20	2	5	3	MTO-3P	86-2		
1027	200	200														8	5				
2196	200	200						65				1.92	12	5	ITO-3P	88-3					
1788	100	100																			
1789	200	200	7	±4	0.3	25	-55 ~ 150	150	—	1500	1.5	2	5.0	20	2	12	5	ITO-220	82-4		
1790	60 ^{±10}	60 ^{±10}																			
1791	100	100	7	7	0.5	30		150	—	1500	1.5	2	4.17	20	2	12	5				
1792	200	200																			
1793	100	100	7	10	0.5	50		150	—	1500	1.5	2	2.5	20	2	12	5				
1794	200	200																			
1795	500	400						12	10	0.5	50	150	400	150	1.5	2	2.5	10	2	15	15
2SB1282	-100	-100	-7	±4	-0.3	25		-55 ~ 150	150	—	1500	-1.5	-2	5	20	1	4	2	ITO-220	82-4	
1283				-7	-0.5	30	4.16														
1284				-10	-0.8	35	3.57														
1285				-15	-1	100	1.25							MTO-3P							86-2
1448						65	1.92														

Transistor Arrays

Bipolar transistors Arrays



Type No.	Absolute Maximum Ratings								Electrical Characteristics								Remarks	Outline			
	V _{CB0}	V _{CEO}	V _{EB0}	I _C	I _B	P _T	T _{stg}	T _J	h _{FE}	V _{CE} (sat)	V _{BE} (sat)	θ _{ja}	t _{on}	t _s	t _f	Package		Figure			
	[V]	[V]	[V]	[A]	[A]	[W]	[°C]	[°C]	(min)	[V]	[V]	[°C/W]	[μs]	[μs]	[μs]						
TH3L10	100	100	7	±3	0.3	3.5	-55~150	150	1500	1.5	2	35	2	8	3	NPNX4	TH	65			
3L20	200	200								±1.5	±2					NPNX2, PNPX2					
3C10	±100	±100								±7	±0.3					PNPX4					
3J10	-100	-100	-7		-0.3					NPNX4											
3L10Z*	60 ^{±10}	60 ^{±10}	7	5	0.5	2.5	-55~150	150	1500		±1.5	-2	50	2	8	3					
5L10	100	100									5	0.5					1.5	2	5		
5L20	200	200								5	0.5	1.5					2	5			
TK3L10	100	100	7	±3	0.3	2.5				-55~150	150	1500					1.5	2	50	2	8
3L20	200	200					±7	-0.3	PNPX3												
3J10	-100	-100					-7	0.3	NPNX3												
3L10Z*	60 ^{±10}	60 ^{±10}	7		5		0.5	3.5	-55~150				150	1500	1.5	2	35.7	0.3			
5L10	100	100		5		0.5				1.5	2	5									
5L20	200	200		5		0.5				1.5	2	5									
TH5P4	±60	±40	±7	±5	±1.5	3.5	-55~150	150		70	±0.3	±1.2			35.7	0.3			2	0.5	NPNX2, PNPX2

※: With zener diode between collector and base