



2SD798 Series Transistors

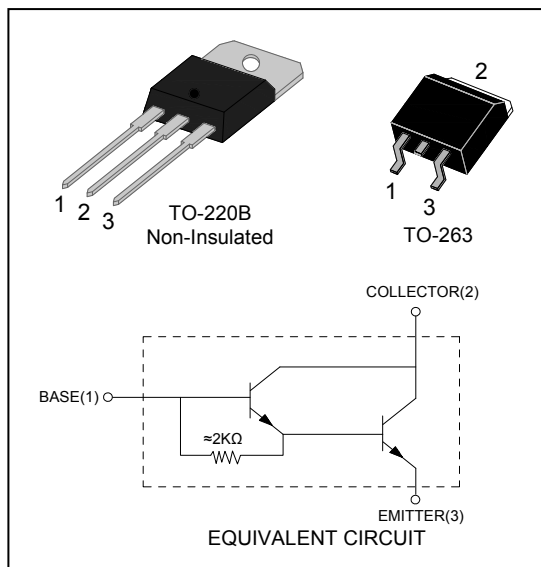
Rev.1.3

DESCRIPTION:

The high voltage darlington power transistors are especially designed for use in high-voltage switching igniter application.

MAIN FEATURES

Symbol	Value	Unit
I_C	6	A
V_{CEO}	300	V



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-150	$^{\circ}C$
Collector-emitter voltage ($T_j=25^{\circ}C$)	V_{CEO}	300	V
Collector-base voltage	V_{CBO}	600	V
Emitter-base voltage	V_{EBO}	5.0	V
Collector current - continuous	I_C	6.0	A
Collector current - peak	I_{CM}	10	A
Base current	I_B	1.0	A
Total power dissipation @ $T_C=25^{\circ}C$	P_D	30	W
Derate above $25^{\circ}C$	P_D	0.24	W/ $^{\circ}C$

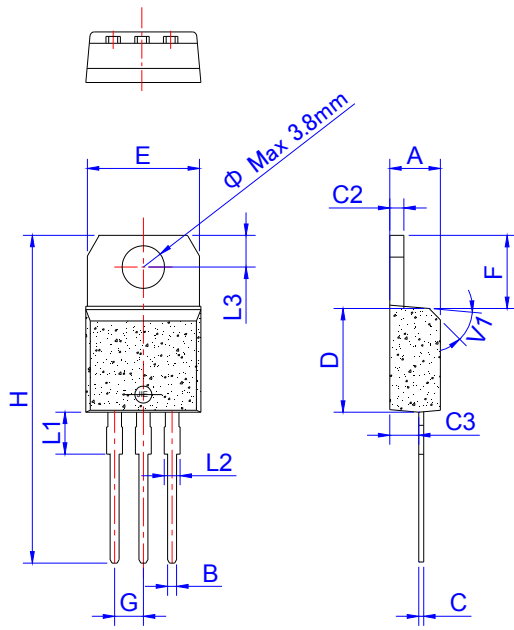
ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
OFF CHARACTERISTICS					
$V_{CEO(SUS)}$	$I_C=0.5A$ $L=40mH$	300	-	-	V
I_{CBO}	$V_{CB}=600V$ $I_E=0$	-	-	500	μA
I_{EBO}	$V_{EB}=5.0V$ $I_C=0$	-	-	500	μA
ON CHARACTERISTICS					
h_{FE}	$I_C=2.0A$ $V_{CE}=5.0V$	5000	-	-	
h_{FE}	$I_C=125mA$ $V_{CE}=5.0V$	2500	-	-	
$V_{CE(sat)}$	$I_C=4.0A$ $I_B=40mA$	-	-	2.0	V
$V_{BE(sat)}$	$I_C=4.0A$ $I_B=40mA$	-	-	2.5	V
SWITCHING CHARACTERISTICS					
t_{on}	$V_{CC}=100V$ $I_C=4.0A$ $I_{B1}=-I_{B2}=40mA$ $R_L=25\Omega$	-	1.0	-	μs
t_s		-	8.0	-	μs
t_f		-	5.0	-	μs

THERMAL RESISTANCES

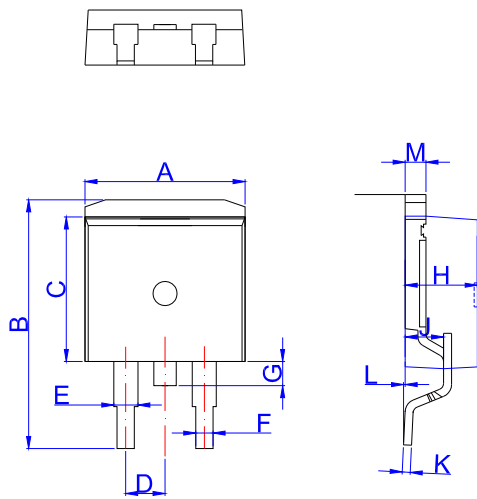
Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(AC)	4.16	$^{\circ}\text{C}/\text{W}$

PACKAGE MECHANICAL DATA



TO-220B Non-Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



TO-263

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.4		9.6	0.37		0.378
D		2.54			0.100	
E	1.20		1.40	0.047		0.055
F	0.75		0.85	0.029		0.033
G			1.75			0.069
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053

FIG.1: Power derating

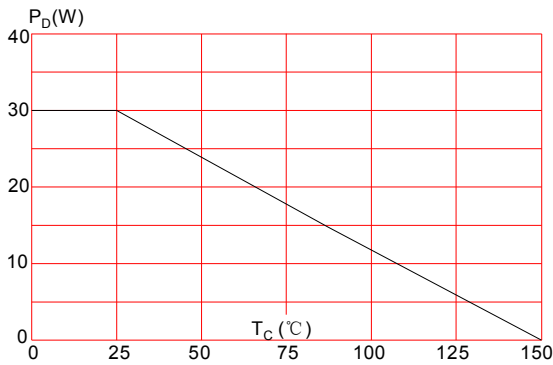


FIG.2: DC safe operating area

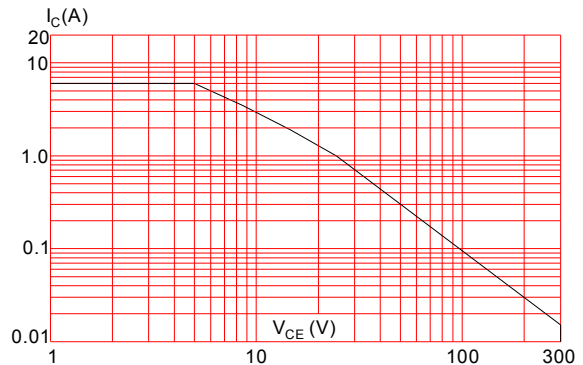


FIG.3: DC current gain h_{FE} versus collector current I_C

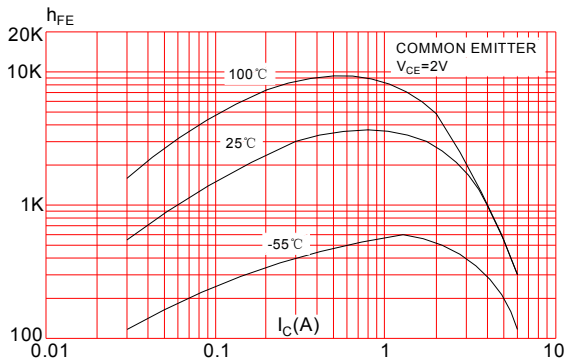


FIG.4: Collector-emitter voltage (V_{CE}) versus collector current I_C

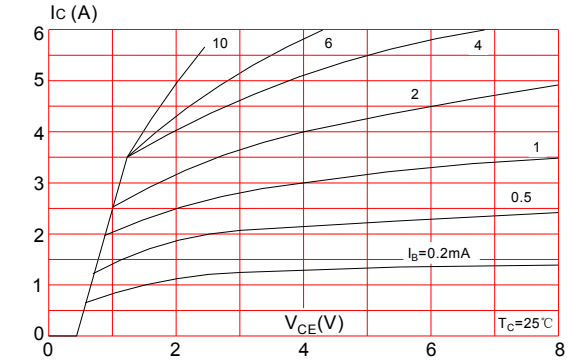


FIG.5: Saturation voltage drop $V_{CE(sat)}$ versus collector current I_C

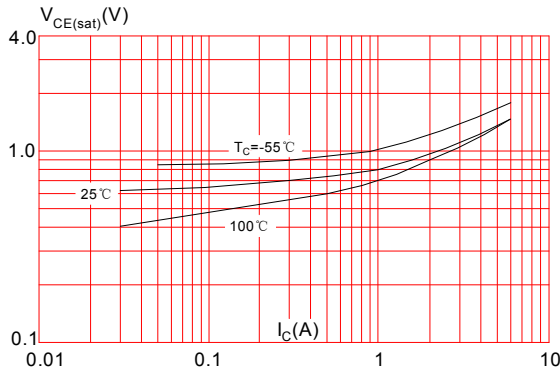
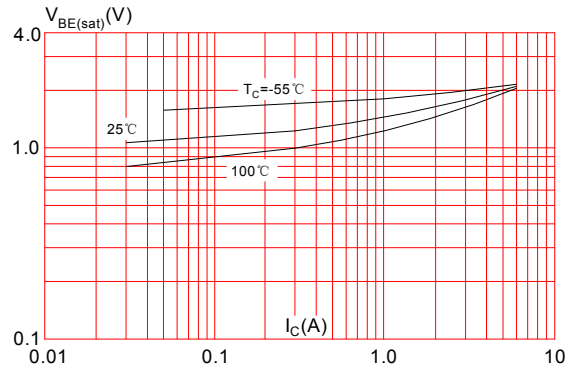



FIG.6: Saturation voltage drop $V_{BE(sat)}$ versus collector current I_C



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