

isc Silicon NPN Darlington Power Transistor

2SD1336

DESCRIPTION

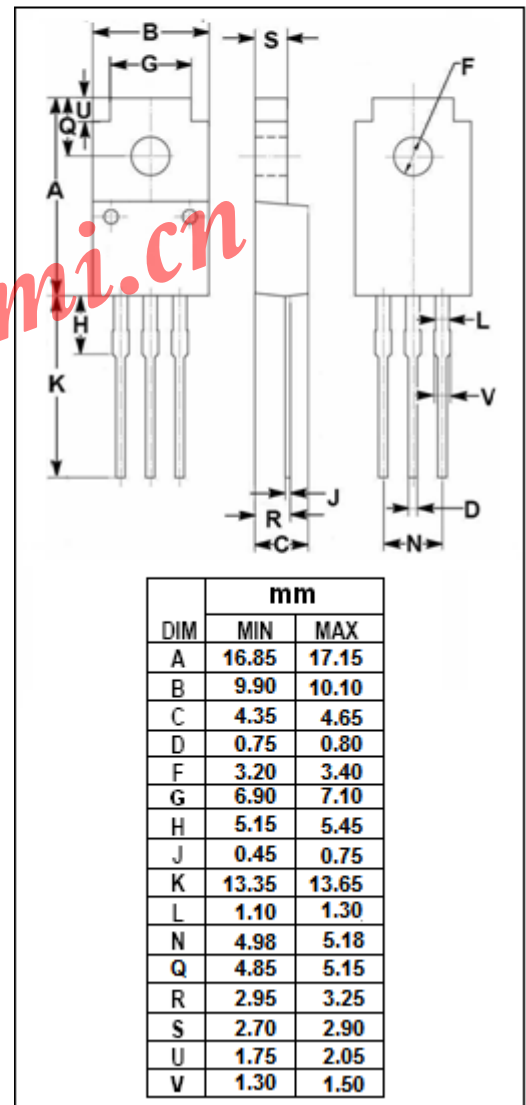
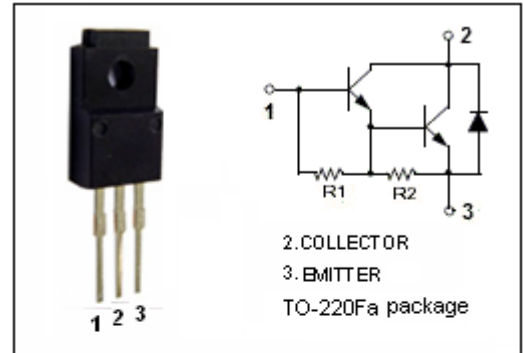
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 100V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 1500(\text{Min}) @ I_C = 5A, V_{CE} = 4V$
- High Speed Switching

APPLICATIONS

- High power switching applications

ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_C$	Collector Current-Continuous	6	A
$I_{CM}$	Collector Current-Peak	10	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	35	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=2\text{A}; L=10\text{mH}$	100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=200\text{mA}; I_C=0$	8			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=12.5\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=12.5\text{mA}$			2.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=150\text{V}; I_E=0$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=4\text{V}$	1500			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=1\text{MHz}$		20		MHz

## Switching times

$t_{on}$	Turn-on Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=12.5\text{mA}; V_{CC}=50\text{V}$		0.7		$\mu\text{s}$
$t_{stg}$	Storage Time			4.0		$\mu\text{s}$
$t_f$	Fall Time			1.5		$\mu\text{s}$