

**isc Silicon NPN Darlington Power Transistor**
**2SD2340**
**DESCRIPTION**

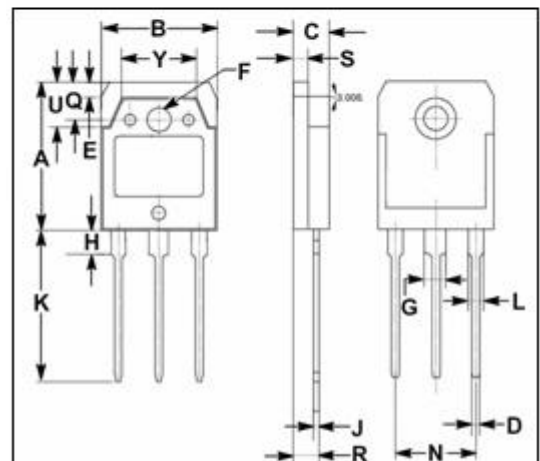
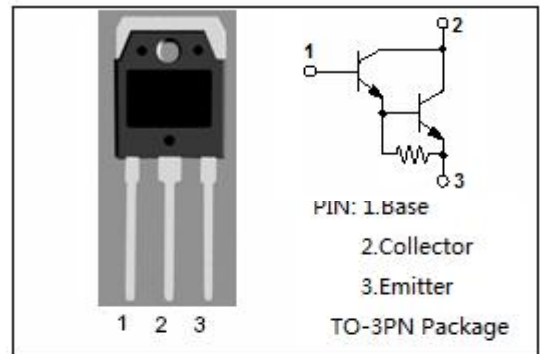
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 110V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 5000(\text{Min}) @ I_C = 3A$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.5V(\text{Max.}) @ I_C = 5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Audio, regulator and general purpose.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	130	V
$V_{CEO}$	Collector-Emitter Voltage	110	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	6	A
$I_{CP}$	Collector Current-Peak	10	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2.5	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	50	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

**isc Silicon NPN Darlington Power Transistor****2SD2340****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=30\text{mA}; I_B=0$	110			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	130			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=5\text{mA}$			2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=5\text{mA}$			3.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=130\text{V}; I_E=0$			100	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff current	$V_{CE}=110\text{V}; I_B=0$			100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			3.0	mA
$h_{FE}$	DC Current Gain	$I_C=3\text{A}; V_{CE}=5\text{V}$	5000			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$		20		MHz

## Switching times

$t_{on}$	Turn-on Time	$I_C=5\text{A}, I_{B1}=I_{B2}=5\text{mA}$		3.5		$\mu\text{s}$
$t_{stg}$	Storage Time			2.5		$\mu\text{s}$
$t_f$	Fall Time			0.6		$\mu\text{s}$

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