

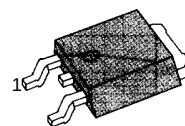
D-PACK FOR SURFACE MOUNT**APPLICATIONS**

- High DC Current Gain
- Built-in a Damper Diode at E-C
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I. PACK, " - I " Suffix)
- Electrically Similar to Popular TIP112

ABSOLUTE MAXIMUM RATINGS

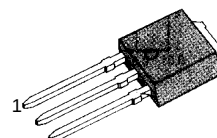
Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	2	A
Collector Current (Pulse)	I_C	4	A
Base Current	I_B	50	mA
Collector Dissipation ($T_C=25^{\circ}\text{C}$)	P_C	20	W
Collector Dissipation ($T_A=25^{\circ}\text{C}$)	P_C	1.75	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^{\circ}\text{C}$

D-PAK



1. Base 2. Collector 3. Emitter

I-PAK



1. Base 2. Collector 3. Emitter

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}\text{C}$)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
* Collector Emitter Sustaining Voltage	$V_{CEO} \text{ (sus)}$	$I_C = 30\text{mA}, I_B = 0$	100		V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 50\text{V}, I_B = 0$		20	μA
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100\text{V}, I_B = 0$		20	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		2	mA
* DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 0.5\text{A}$	500		
		$V_{CE} = 3\text{V}, I_C = 2\text{A}$	1000	12K	
		$V_{CE} = 3\text{V}, I_C = 4\text{A}$	200		
* Collector Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = 2\text{A}, I_B = 8\text{mA}$		2	V
		$I_C = 4\text{A}, I_B = 40\text{mA}$		3	V
* Base Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C = 4\text{A}, I_B = 40\text{mA}$		4	V
* Base Emitter On Voltage	$V_{BE}(\text{on})$	$V_{CE} = 3\text{A}, I_C = 2\text{A}$		2.8	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 0.75\text{A}$	25		MHz
		$f = 1\text{MHz}$			
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}, I_E = 0$		100	pF
		$f = 0.1\text{MHz}$			

* Pulse Test : $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

KSH112

NPN SILICON DARLINGTON TRANSISTOR



KSH112

NPN SILICON DARLINGTON TRANSISTOR

