勝 特 力 材 料 886-3-5773766
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

SGS-THOMSON MICROELECTRONICS

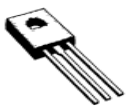
2N6034/35/36
2N6037/38/39

MEDIUM POWER DARLINGTONS

DESCRIPTION

The 2N6037, 2N6038 and 2N6039 are silicon epitaxial-base NPN power transistors in monolithic Darlington configuration and are mounted in Jedec TO-126 plastic package.

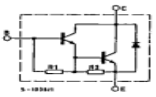
The complementary PNP types are the 2N6034, 2N6035 and 2N6036 respectively.



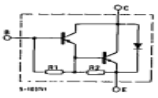
TO-126

INTERNAL SCHEMATIC DIAGRAMS

NPN



PNP



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP NPN	2N6034 2N6037	2N6035 2N6038	2N6036 2N6039	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)		40	60	80	V
V_{CEO}	Colletor-emitter Voltage ($I_B = 0$)		40	60	80	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)		5			V
I_C	Collector Current		4			A
I_{CM}	Collector Peak Current		8			A
I_B	Base Current		100			mA
P_{tot}	Total Power Dissipation at $T_{case} \leq 25°C$		40			W
T_{stg}	Storage Temperature		− 65 to 150			°C
T_j	Junction Temperature		150			°C

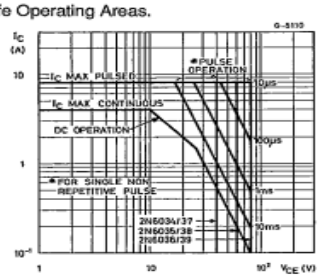
THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	3.12	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max	83.3	°C/W

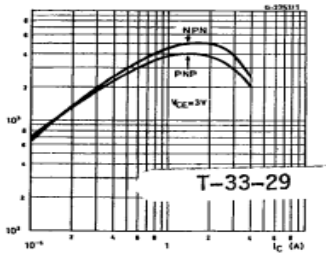
ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cuttoff Current ($I_E = 0$)	for **2N6034/37** $V_{CE} = 40V$ for **2N6035/38** $V_{CE} = 60V$ for **2N6036/39** $V_{CE} = 80V$				100 100 100	µA µA µA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	for **2N6034/37** $V_{CE} = 40V$ for **2N6035/38** $V_{CE} = 60V$ for **2N6036/39** $V_{CE} = 80V$				100 100 100	µA µA µA
I_{CEX}	Collector Cutoff Current ($V_{EB} = 1.5V$)	for **2N6034/37** $V_{CE} = 40V$ for **2N6035/38** $V_{CE} = 60V$ for **2N6036/39** $V_{CE} = 80V$ $T_{case} = 125°C$ for **2N6034/37** $V_{CE} = 40V$ for **2N6035/38** $V_{CE} = 60V$ for **2N6036/39** $V_{CE} = 80V$				0.1 0.1 0.1 0.5 0.5 0.5	mA mA mA mA mA mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5V$				2	mA
$V_{CEO(sus)}$*	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100mA$	for **2N6034/37** for **2N6035/38** for **2N6036/39**	40 60 80			V V V
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	$I_C = 2A$ $I_C = 4A$	$I_B = 8mA$ $I_B = 40mA$			2 3	V V
$V_{BE(sat)}$*	Base-emitter Saturation Voltage	$I_C = 4A$	$I_B = 40mA$			4	V
V_{BE}*	Base-emitter Voltage	$I_C = 2A$	$V_{CE} = 3V$			2.8	V
h_{FE}*	DC Current Gain	$I_C = 0.5A$ $I_C = 2A$ $I_C = 4A$	$V_{CE} = 3V$ $V_{CE} = 3V$ $V_{CE} = 3V$	500 750 100		15000	
h_{fe}	Small Signal Current Gain	$I_C = 0.75A$ f = 1MHz	$V_{CE} = 10V$	25			
C_{CBO}	Collector-base Capacitance	$V_{CB} = 10V$ f = 1MHz	$I_E = 0$			(*)100	

Safe Operating Areas.

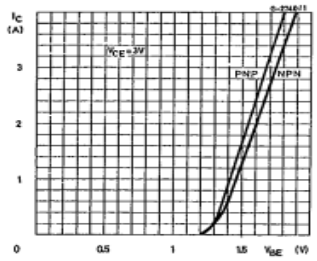


DC Current Gain.

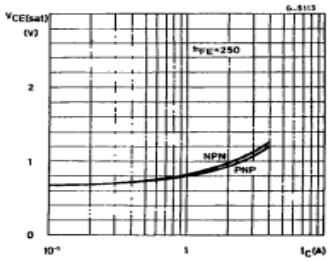


T-33-29

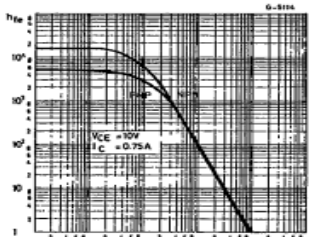
DC Transconductance



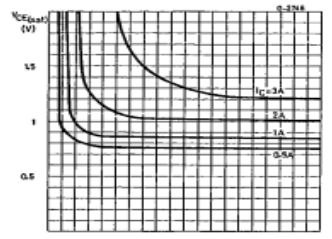
Collector-emitter Saturation Vol-



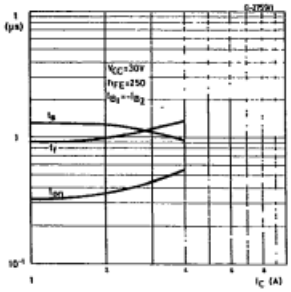
Small Signal Current Gain.



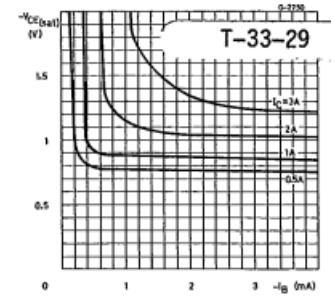
Collector-emitter Saturation Voltage (NPN).

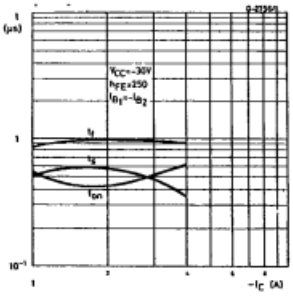


Saturated Switching Characteristics (NPN).



Collector-emitter Saturation Voltage (PNP).



T-33-29

Saturated Switching Characteristics (PNP).