2SD1439

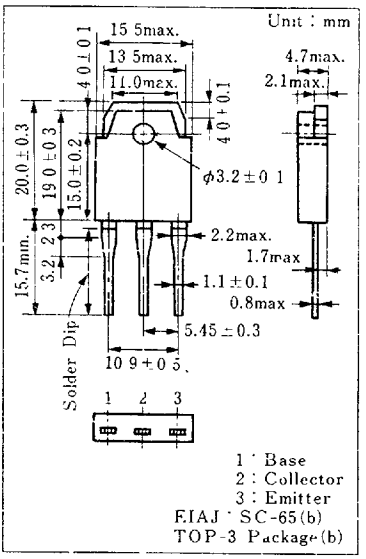
Silicon NPN Triple-Diffused Junction Mesa Type

Horizontal Deflection Output

■ Features

- Damper diode built-in
- High breakdown voltage and high reliability by glass passivation
- High speed switching
- Wide area of safety operation (ASO)

■ Package Dimensions

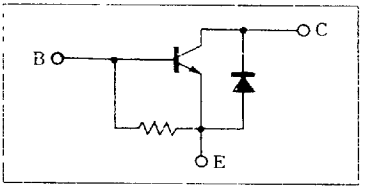


■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	1500	V
Collector-emitter voltage		V_{CES}	1500	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	3	A
Peak collector current		I_{CP}*	10	A
Peak base current		I_{BP}	3.5	A
Reverse peak base current		I_{BP}	−2.5	A
Collector power dissipation	Tc=25°C	P_C	50	W
	Ta=25°C		2.5	
Junction temperature		T_j	130	°C
Storage temperature		T_{stg}	−55~+130	°C

* Non repetitive peak value

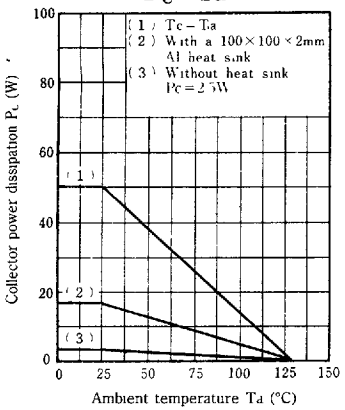
■ Inner Circuit



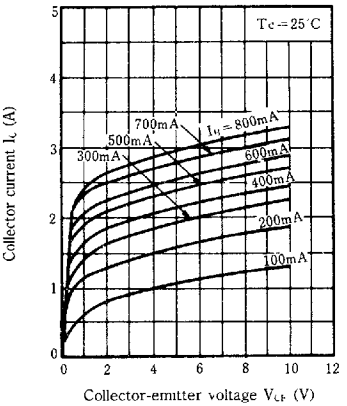
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max	Unit
Collector cutoff current	I_{CBO}	V_{CB}=750 V, I_L=0			50	μA
		V_{CB}=1500 V, I_E=0			1	mA
Emitter-base voltage	V_{EBO}	I_E=500 mA, I_C=0	5			V
DC current gain	h_{FE}	V_{CE}=10 V, I_C=2 A	4		12	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2 A, I_B=0.75 A			5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=2 A, I_B=0.75 A			1.5	V
Transition frequency	f_T	V_{CE}=10V, I_C=0.5A, f=0.5MHz		2		MHz
Fall time	t_f	I_C=2A, I_{Bend}=0.75A			0.75	μs
Storage time	t_{stg}	L_{leak}=5μH			3	μs
Diode forward voltage	V_F	V_{CE}=10V, I_C=0.5A, f=0.5MHz			−2.2	V

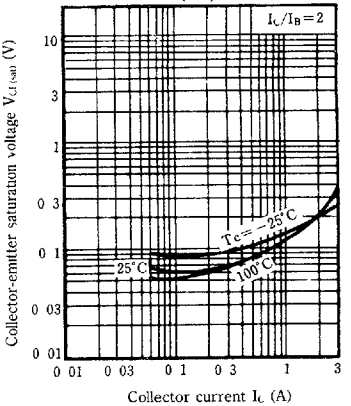
$P_C - Ta$



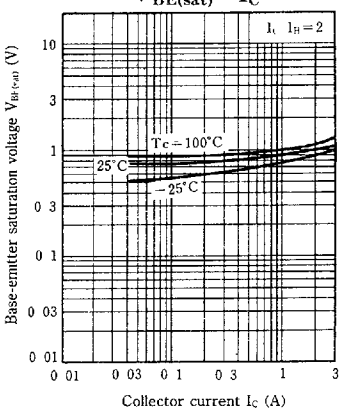
$I_C - V_{CE}$



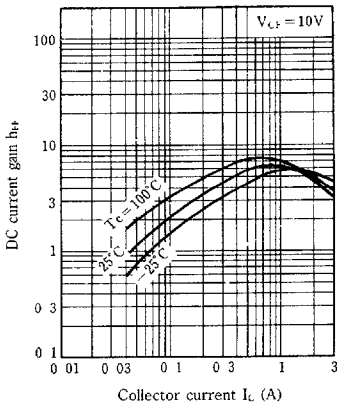
$V_{CE(sat)} - I_C$



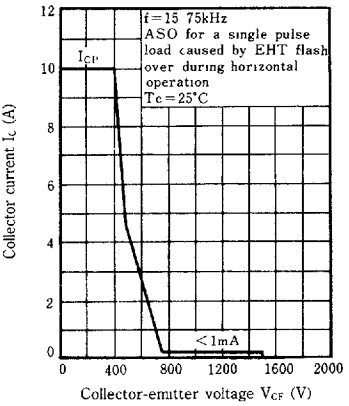
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$