

Absolute maximum ratings

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

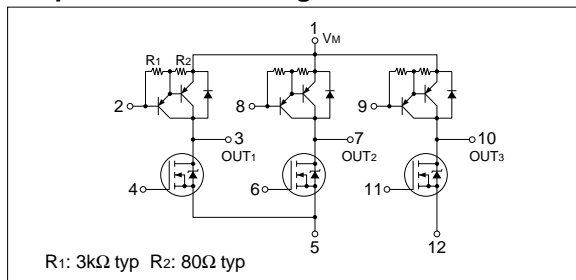
Symbol	Ratings	Unit
V_M	60	V
I_o	± 6 ($PW \leq 100\text{ms}$)	A
I_{OP}	± 10 ($PW \leq 1\text{ms}$)	A
V_{GS}	± 10	V
I_B	-0.5	A
P_T	5 ($T_a=25^\circ\text{C}$)	W
	35 ($T_c=25^\circ\text{C}$)	
θ_{j-a}	25	$^\circ\text{C/W}$
θ_{j-c}	3.57	$^\circ\text{C/W}$
V_{ISO}	1000 (Between fin and lead pin, AC)	V_{rms}
T_j	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

Electrical characteristics (Sink : N channel MOSFET)

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

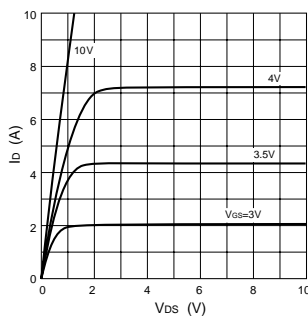
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	60			V	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$
I_{GSS}			± 500	nA	$V_{GS}=\pm 10\text{V}$
I_{DSS}			250	μA	$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$Re(yfs)$	3.1	4.6		S	$V_{DS}=10\text{V}$, $I_D=4\text{A}$
$R_{DS(ON)}$		0.17	0.22	Ω	$V_{GS}=10\text{V}$, $I_D=4\text{A}$
		0.25	0.30		$V_{GS}=4\text{V}$, $I_D=4\text{A}$
C_{iss}		400		pF	$V_{BS}=25\text{V}$, $f=1.0\text{MHz}$, $V_{GS}=0\text{V}$
C_{oss}		160		pF	$V_{GS}=0\text{V}$
t_{on}		80		ns	$I_D=4\text{A}$, $V_{DD}=30\text{V}$, $V_{GS}=5\text{V}$
t_{off}		50		ns	$V_{GS}=5\text{V}$
V_{SD}		1.1	1.5	V	$I_{SD}=4\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		150		ns	$I_F=\pm 100\text{mA}$

Equivalent circuit diagram

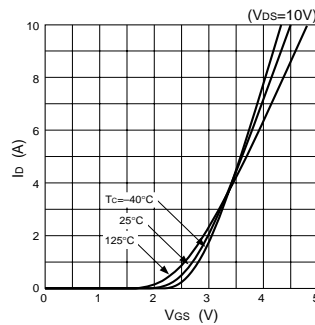


Characteristic curves (N-channel)

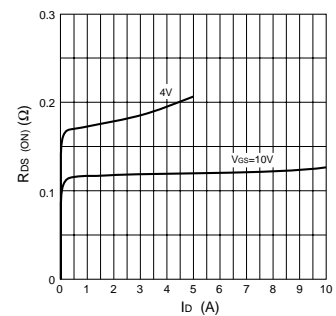
V_{DS} - I_D Characteristics (Typical)



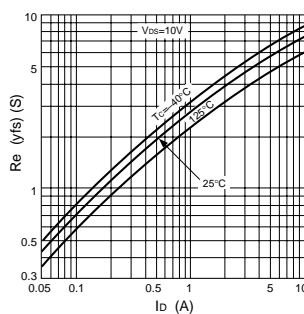
V_{GS} - I_D Temperature Characteristics (Typical)



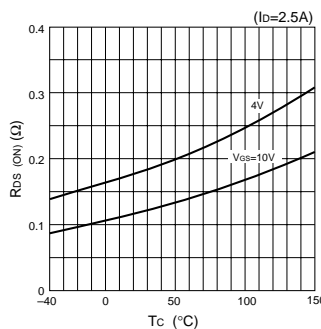
I_{DS} - $R_{DS(ON)}$ Characteristics (Typical)



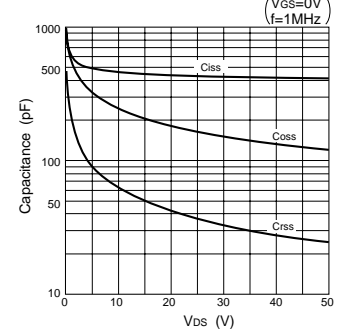
I_D - $Re(yfs)$ Temperature Characteristics (Typical)



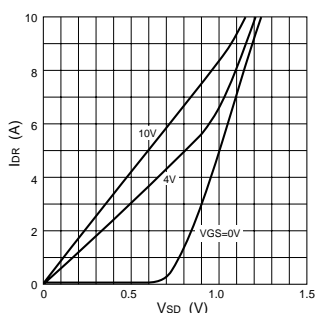
T_c - $R_{DS(ON)}$ Characteristics (Typical)



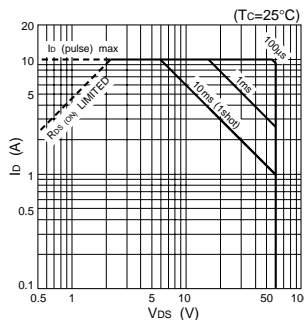
V_{DS} -Capacitance Characteristics (Typical)



V_{SD} - I_{DR} Characteristics (Typical)



Safe Operating Area (SOA)

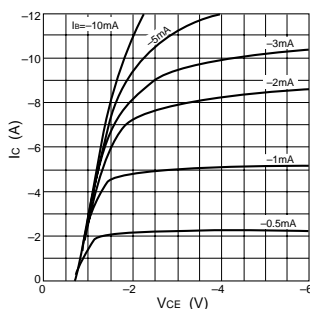


Electrical characteristics (Source: PNP transistor) (T_a=25°C)

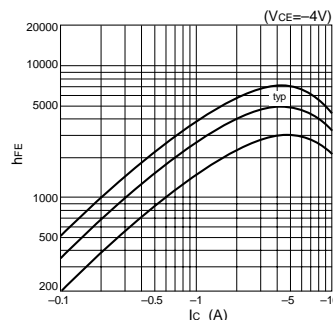
Symbol	Specification			Unit	Conditions
	min	typ	max		
I _{CBO}			-10	μA	V _{CB} =-60V
I _{EBO}	-1		-5	mA	V _{EB} =-6V
V _{CEO}	-60			V	I _C =-25mA
h _{FE}	2000	5000	12000		V _{CE} =-4V, I _C =-4A
V _{CE(sat)}			-1.5	V	I _C =-4A, I _B =-10mA
V _{BE(sat)}			-2.0	V	
V _{FEC}			2.0	V	I _{FEC} =4A
t _{rr}		1.0		μs	I _F =±0.5A
t _{on}		1.0		μs	V _{CC} =-25V, I _C =-4A,
t _{stg}		1.4		μs	
t _f		0.6		μs	
f _T		120		MHz	V _{CE} =-12V, I _E =1A
C _{ob}		150		pF	V _{CB} =-10V, f=1MHz

Characteristic curves (PNP)

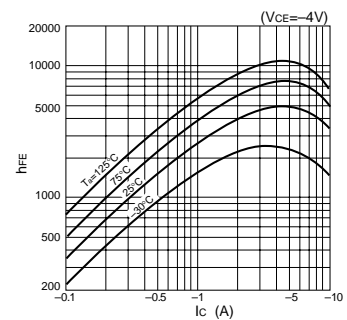
I_C-V_{CE} Characteristics (Typical)



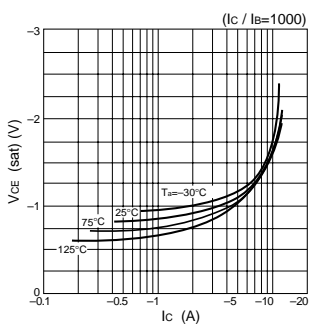
h_{FE}-I_C Characteristics (Typical)



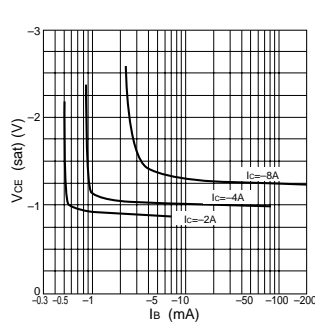
h_{FE}-I_C Temperature Characteristics (Typical)



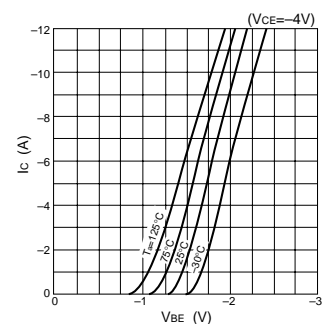
V_{CE(sat)}-I_C Temperature Characteristics (Typical)



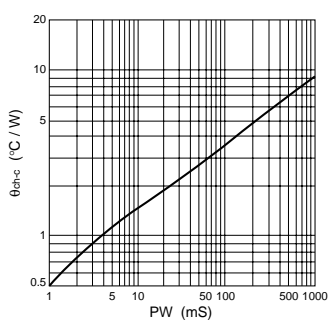
V_{CE(sat)}-I_B Characteristics (Typical)



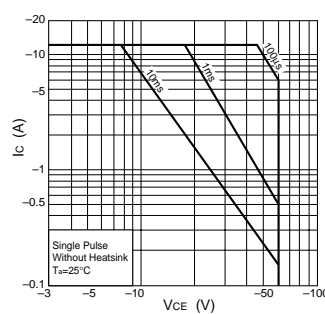
I_C-V_{BE} Temperature Characteristics (Typical)



θ_{j-a}-PW Characteristics



Safe Operating Area (SOA)



P_T-T_a Characteristics

