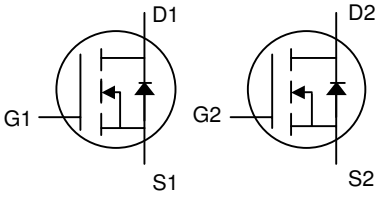
Dual N-channel Enhancement-mode Power MOSFET

Independent, Symmetrical Dual MOSFETs

Low Gate Charge

Low On-resistance

RoHS-compliant, halogen-free

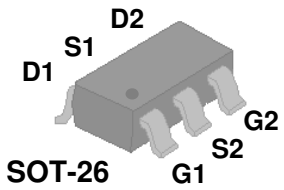


BV_{DSS}	30V
$R_{DS(ON)}$	72mΩ
I_D	3.3A

Description

Advanced Power MOSFETs from APEC provide the designer with the best combination of fast switching, low on-resistance and cost-effectiveness.

The SOT-26 package is widely used for commercial and industrial applications, where space is at a premium.



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D at T_A=25℃	Continuous Drain Current[3]	3.3	A
I_D at T_A=70℃	Continuous Drain Current[3]	2.6	A
I_{DM}	Pulsed Drain Current[1]	10	A
P_D at T_A=25℃	Total Power Dissipation	1.2	W
	Linear Derating Factor	0.01	W/℃
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient	110	℃/W

Ordering Information

AP2626GY-HF-3TR : in RoHS-compliant, halogen-free SOT-26 shipped on tape and reel (3000pcs/reel)

Electrical Specifications at T_j=25℃ (unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA	30	-	-	V
$\Delta BV_{DSS}/\Delta T_j$	Breakdown Voltage Temperature Coefficient	Reference to 25℃, I_D=1mA	-	0.03	-	V/℃
$R_{DS(ON)}$	Static Drain-Source On-Resistance[2]	V_{GS}=10V, I_D=3A	-	-	72	mΩ
		V_{GS}=4.5V, I_D=2A	-	-	120	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250uA	1	-	3	V
g_{fs}	Forward Transconductance	V_{DS}=5V, I_D=3A	-	2.8	-	S
I_{DSS}	Drain-Source Leakage Current (T_j=25°C)	V_{DS}=30V, V_{GS}=0V	-	-	1	uA
	Drain-Source Leakage Current (T_j=70°C)	V_{DS}=24V, V_{GS}=0V	-	-	25	uA
I_{GSS}	Gate-Source Leakage	V_{GS}= ±20V	-	-	±100	nA
Q_g	Total Gate Charge[2]	I_D=3A	-	3.2	5.1	nC
Q_{gs}	Gate-Source Charge	V_{DS}=25V	-	0.9	-	nC
Q_{gd}	Gate-Drain ("Miller") Charge	V_{GS}=4.5V	-	1.7	-	nC
$t_{d(on)}$	Turn-on Delay Time[2]	V_{DS}=15V	-	3.7	-	ns
t_r	Rise Time	I_D=1A	-	10.1	-	ns
$t_{d(off)}$	Turn-off Delay Time	R_G=3.3Ω, V_{GS}=10V	-	11.8	-	ns
t_f	Fall Time	R_D=15Ω	-	2.3	-	ns
C_{iss}	Input Capacitance	V_{GS}=0V	-	170	270	pF
C_{oss}	Output Capacitance	V_{DS}=25V	-	50	-	pF
C_{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	35	-	pF
R_g	Gate Resistance	f=1.0MHz	-	0.5	0.8	Ω

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_{SD}	Forward On Voltage[2]	I_S=1A, V_{GS}=0V	-	-	1.2	V
t_{rr}	Reverse Recovery Time	I_S=3A, V_{GS}=0V,	-	15	-	ns
Q_{rr}	Reverse Recovery Charge	dI/dt=100A/μs	-	8	-	nC

Notes:

1. Pulse width limited maximum junction temperature.
2. Pulse testpulse width < 300μsec, duty cycle < 2%
3. Surface mounted on 1 in^2 copper pad of FR4 board, t ≤5sec; 180℃/W when mounted on minimum copper pad.

Typical Electrical Characteristics

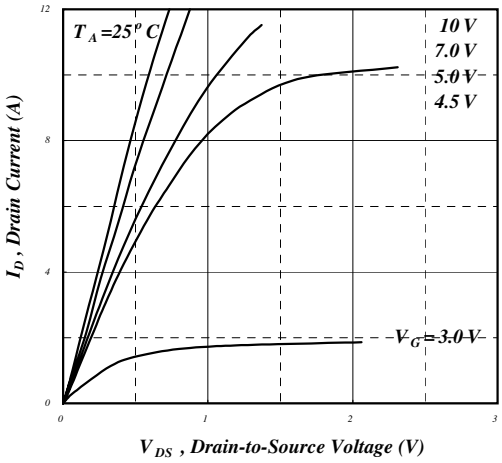


Fig 1. Typical Output Characteristics

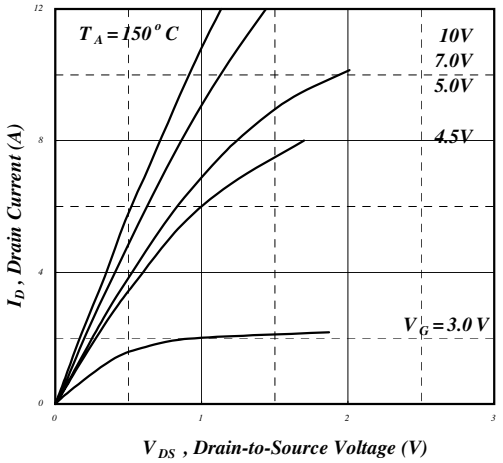


Fig 2. Typical Output Characteristics

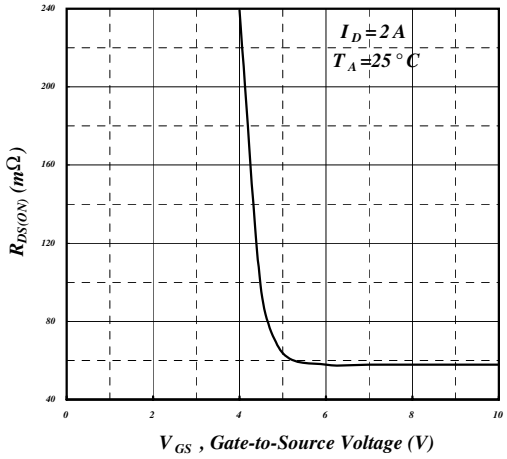


Fig 3. On-Resistance vs. Gate Voltage

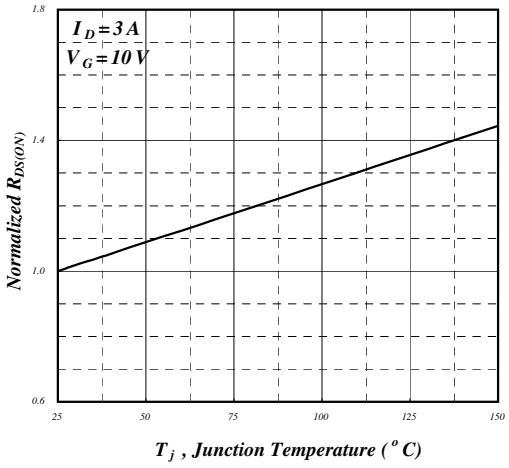


Fig 4. Normalized On-Resistance vs. Junction Temperature

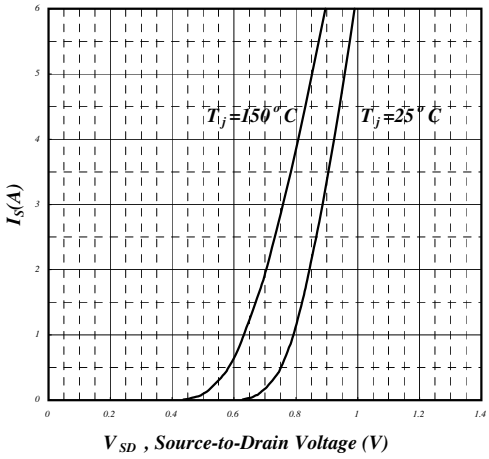


Fig 5. Forward Characteristic of Reverse Diode

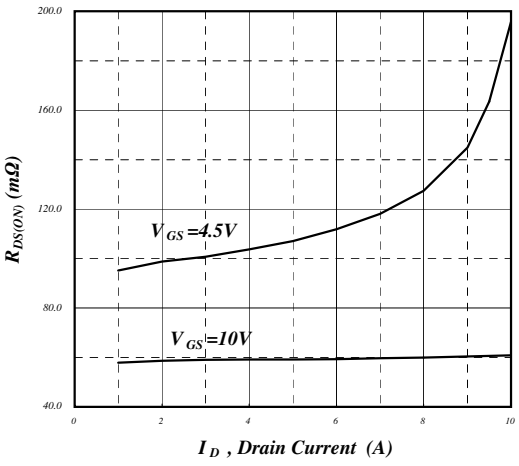


Fig 6. On-Resistance vs. Drain Current

Typical Electrical Characteristics (cont.)

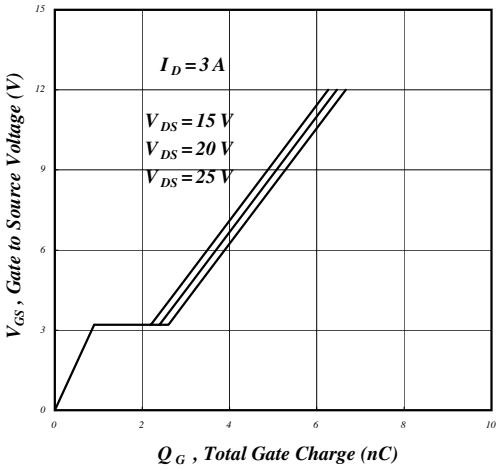


Fig 7. Gate Charge Characteristics

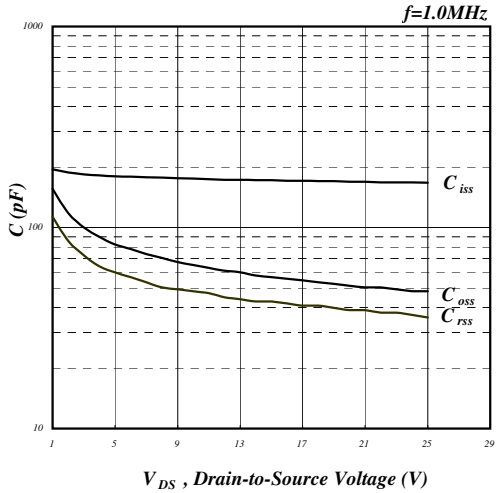


Fig 8. Typical Capacitance Characteristics

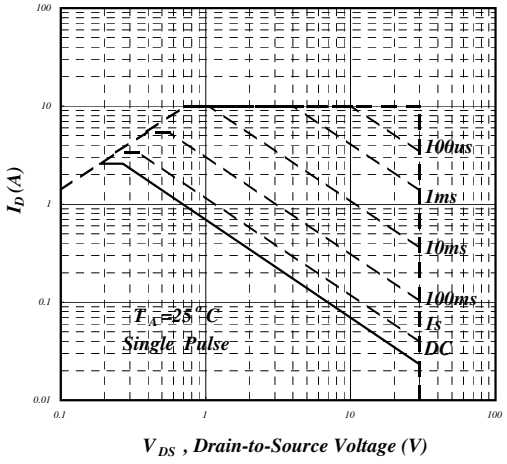


Fig 9. Maximum Safe Operating Area

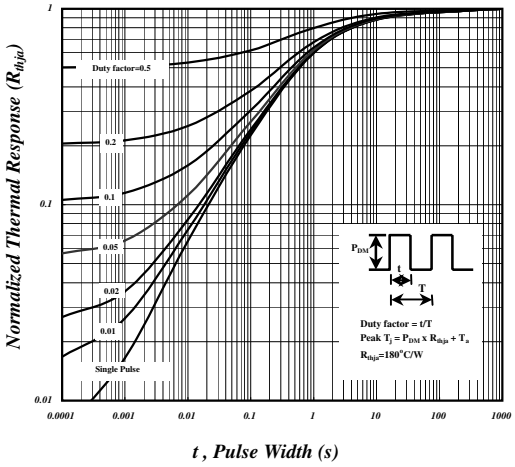


Fig 10. Effective Transient Thermal Impedance

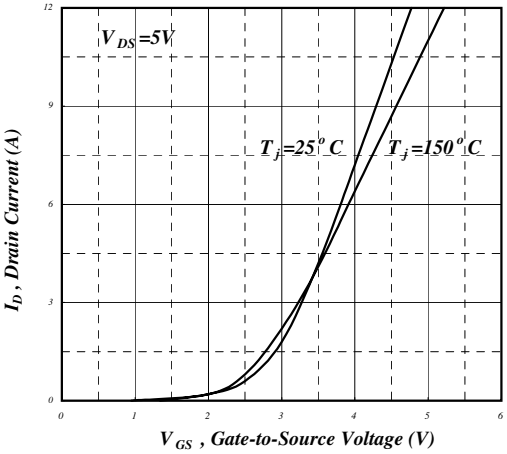


Fig 11. Transfer Characteristics

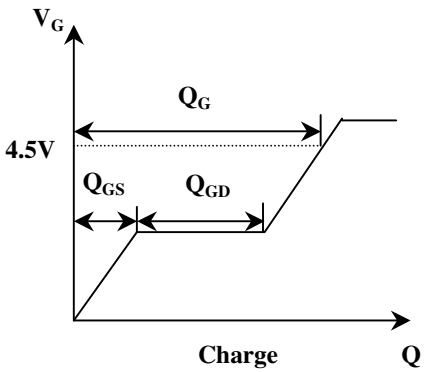
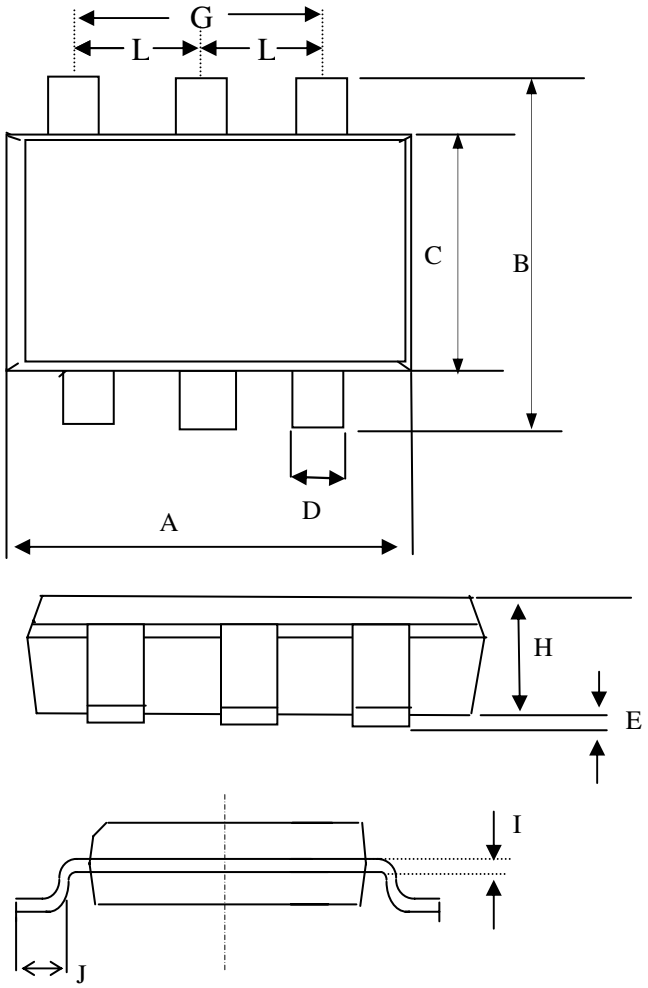


Fig 12. Gate Charge Waveform

Package Dimensions: SOT-26

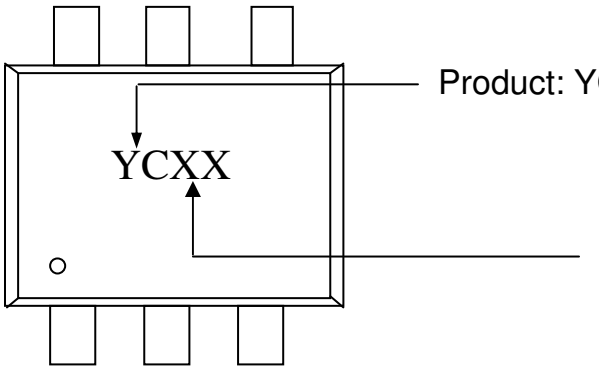


	Millimeters		
SYMBOLS	MIN	NOM	MAX
A	2.70	2.90	3.10
B	2.60	2.80	3.00
C	1.40	1.60	1.80
D	0.30	0.43	0.55
E	0.00	0.05	0.10
H	1.20REF		
G	1.90REF		
I	0.12REF		
J	0.37REF		
L	0.95REF		

1. All dimensions are in millimeters.
2. Dimensions do not include mold protrusions.

Marking Information:

Laser Marking



Product: YC = AP2626GY-HF-3

XX = Date/lot code

For details of how to convert this to standard YYWW date code format, please contact us directly.